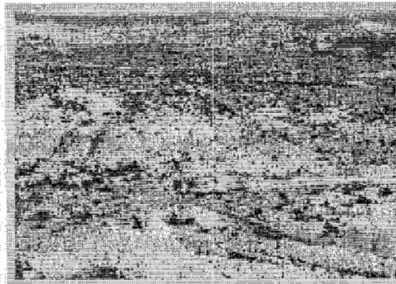


DRAFT

SR-12 & SR-63

CORRIDOR TRANSPORTATION PLAN



UTAH DEPARTMENT OF TRANSPORTATION
Region Four Construction Division
March 2002

Location Map **SR-12 & SR-63** **Corridor Transportation Plan**

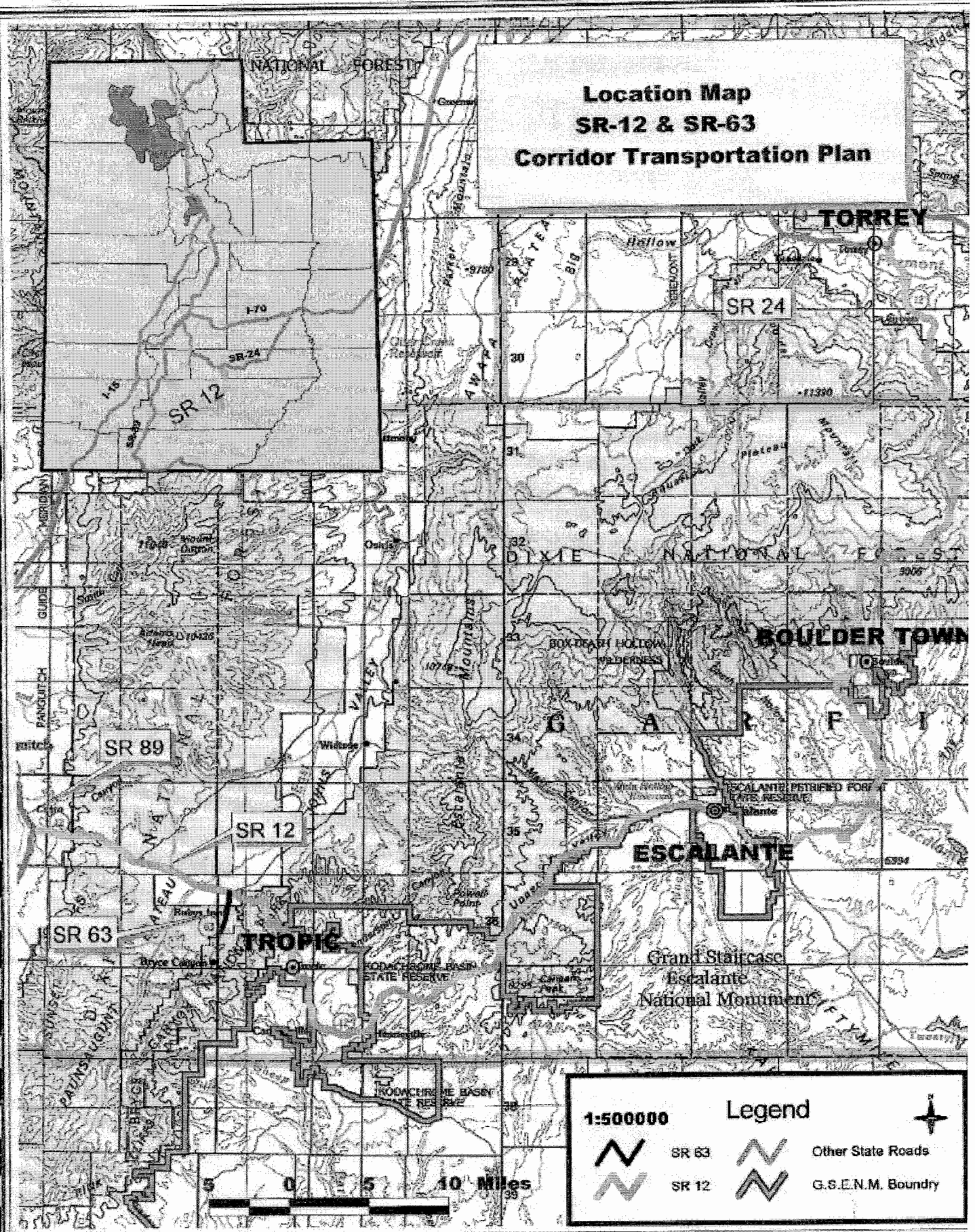
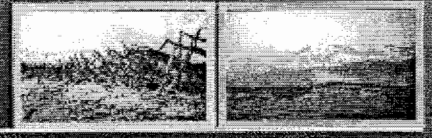


TABLE OF CONTENTS



Location Map	i
List of Tables	iv
List of Figures	iv
List of Graphs	v
List of Maps	v
1.0 Executive Summary	1
2.0 Introduction	3
3.0 Identification of Transportation Corridor Area	6
3.1 Corridor Definition	6
3.2 Historical Perspective	6
3.3 Demographics and Economics	8
4.0 Corridor Section Identification	10
4.1 Corridor Section Summary	17
4.1.A Traffic Patterns/Characteristics	17
4.1.B Environmental	20
4.1.B.1 Land Use Impacts	20
4.1.B.2 Cumulative and Secondary Impacts and Sustainability ..	20
4.1.B.3 Farmland Impacts	20
4.1.B.4 Social Impacts	21
4.1.B.5 Relocation Impacts	21
4.1.B.6 Economic Impacts	21
4.1.B.7 Considerations Relating to Bicycles and Pedestrians ..	21
4.1.B.8 Air Quality Impacts	22
4.1.B.9 Noise Impacts	22
4.1.B.10 Water Quality Impacts	22
4.1.B.11 Permits	22
4.1.B.12 Wetland Impacts	24
4.1.B.13 Wildlife Impacts	24
4.1.B.14 Flood Plain Impacts	25
4.1.B.15 Wild and Scenic Rivers	26
4.1.B.16 Threatened or Endangered Species	27
4.1.B.17 Historic and Archeological Preservation	27
4.1.B.18 Hazardous Waste Sites	28
4.1.B.19 Visual Impacts	28

Table of Contents, continued

	4.1.B.20 Section 4(f) and Section 6(f)	28
	4.1.B.21 Invasive Species	29
	4.1.C Utilities	30
	4.1.D Right-Of-Way	30
	4.1.E Safety	31
	4.1.F Geometric Design	34
	4.1.G Structures	37
	4.1.H UDOT Maintenance	38
	4.1.I Material Sites	39
	4.1.J Pavement Management	41
	4.1.K Intermodal Transportation	44
5.0	Public Involvement	47
5.1	History of Public Involvement	47
5.2	Summary of Public Comment	48
6.0	SR-12 & SR-63 Solutions	49
6.1	Non-construction Solutions	49
	6.1.A Develop Agreements Between the USFS and UDOT	49
	6.1.B Develop Agreements Between GSENM and UDOT	50
	6.1.C Develop Agreements Between Bryce Canyon Nat'l Park & UDOT	51
	6.1.D New Highway Patrolman Stationed in Escalante	52
6.2	Construction Solutions	52
	6.2.A Projects in the Vicinity of USFS Lands and Bryce Canyon National Park	61
	6.2.B Projects Within the Town of Tropic	63
	6.2.C Projects Within the Town of Escalante	64
	6.2.D Projects Within the Town of Boulder	64
	6.2.E Projects Within GSENM	65
	6.2.F Projects South of Torrey	67

APPENDICES

Appendix A, Definitions
Appendix B, Level of Service
Appendix C, UDOT Standard Drawing
Appendix D, Structures
Appendix E, Traffic Projections Graphs
Appendix F, Horizontal and Vertical Alignment Graphs
Appendix G, Wildlife Habitat Maps
Appendix H, Bryce Canyon National Park/Utah MOU and Quit Claim Deed
Appendix I, Public Input
Appendix J, Work Group Meetings

List of Tables

Table 1-1	New Visitor's Centers Along SR-12 and SR-63	2
Table 3-1	Demographics and Economics	9
Table 3-2	Community Populations	9
Table 4-1	Corridor Segments for Evaluation	10
Table 4-2	Vehicle Mix	17
Table 4-3	Traffic Volumes	17
Table 4-4	Level of Service	18
Table 4-5	Farmland Classification	21
Table 4-6	Stream Alteration Permit Needs	22
Table 4-7	Wetland Areas	24
Table 4-8	Wildlife Game Species	25
Table 4-9	FEMA 100-Year Flood Zone	26
Table 4-10	Invasive Species Locations	29
Table 4-11	General ROW Summary	30
Table 4-12	Accident Rate and Severity	31
Table 4-13	Travel Lanes	34
Table 4-14	Shoulder Widths	35
Table 4-15	Areas with Grades > 8%	35
Table 4-16	Areas of Deficient Clear Zones	36
Table 4-17	Substandard Curves	36
Table 4-18	Structures	38
Table 4-19	Recent History of Major Construction Projects	42
Table 4-20	Pavement Preservation Projects	42
Table 4-21	Pavement and Sub-grade Conditions	43
Table 5-1	Public Involvement and Work Groups	47
Table 6-1	Non-construction Solutions	49
Table 6-2	Construction Solutions, 1-5 Year Implementation	54
Table 6-3	Construction Solutions, 5-10 Year Implementation	57
Table 6-4	Construction Solutions, 10-20 Year Implementation	59

List of Figures

Figure 1	Civilian Conservation Corps	1
Figure 2	Civilian Conservation Corps	2
Figure 3	Boulder Mountain Road Prior to Paving	3
Figure 4	Confluence of Calf Creek	5
Figure 5	Powell Point	6
Figure 6	SR-12, East Of Cannonville	19
Figure 7	Calf Creek Drainage	26
Figure 8	Powell Point from SR-12	28
Figure 9	Fencing in Town of Boulder	30
Figure 10	Boulder Mountain	34
Figure 11	Red Canyon Tunnels	37
Figure 12	Powell Point from Bryce Canyon	41
Figure 13	The "Dump" Section	43
Figure 14	Bryce Canyon near SR-12	44

List of Figures, continued

Figure 15	Traveling the Hogsback	47
Figure 16	Cut near Boynton Overlook	50
Figure 17	View from "Head of the Rocks"	51
Figure 18	Lower Bown's Reservoir Turn-off	62
Figure 19	The "Blues"	65
Figure 20	View from "Head of the Rocks"	66
Figure 21	Sharp Turn Below "Head of the Rocks"	67

List of Graphs

Graph 4-1	Accident Frequency	32
Graph 4-2	Accident Severity	33

List of Maps

Location Map 1	i
SR-12 Segment 1	11
SR-12 Segment 2	12
SR-12 Segment 3	13
SR-12 Segment 4	14
SR-12 Segment 5	15
SR-63 Segment 6	16

1.0 EXECUTIVE SUMMARY

Corridor planning involves not only the roadway, but the related geographic area along the roadway. The objective of this plan is to consider all modes of transportation from pedestrians, bicycles, and horses, to RVs, airplanes, trains, cars, and trucks. The intent of this planning effort is to bring meaningful information to the transportation decision-making process. A collection of strategies and improvements have been selected to achieve corridor goals determined through public involvement.

Meeting the transportation needs, or even determining the needs, along the SR-12 and SR-63 Corridors is beyond the capacities of any single agency. This planning effort has sought to obtain input from the public, businesses, communities, counties, and from other public agencies involved along the Corridor. Bringing these parties together has produced some valuable input and ideas, but these efforts can still be considered to be the beginning stages of continued partnerships and public involvement. Being able to meet the increasing, and often conflicting, transportation needs along the corridor will require active cooperation among the partnering public agencies, and it will require the continued involvement of stakeholders to best serve corridor users.



Figure 1. Civilian Conservation Corps - Escalante - Grover. Photo from UDOT publication

The active participation of stakeholders enjoyed by this project may be an indicator of the timeliness for finding transportation solutions along SR-12 and SR-63. One example of the attention that is being directed on the 124 mile length of SR-12 and the 3 miles of SR-63 is the five visitor centers being constructed along the routes for completion between 2001 and 2003, and another visitor center/museum that is in the planning stages. Table 1-1 summarizes these developments. Another example is the completion of the "Scenic Byway 12, Corridor Management Plan" in December of 2001 as part of an effort for "All American" scenic byway designation.

Public input from this planning process identified increasing bicycle use as a principal safety hazard. In the fall of 2001 the Red Canyon bicycle trail construction was completed by the USFS in cooperation with UDOT and Garfield County. The trail provides cyclists a scenic riding experience and it eliminates the hazard of mixing vehicles and bicycles on that portion of the winding canyon road. This is a significant step in the transportation solutions needed along the route, and it is an example of the foresight and commitment being demonstrated for finding solutions.

TABLE 1-1 New Visitor's Centers Along SR-12 and SR-63

Planned Completion Date	Description	Owner	Location
End of 2001	Visitor's Center and Offices	Bryce Canyon National Park	Bryce Canyon National Park
Early 2002	Visitor's Center	Wayne County	Torrey
Early 2002	Visitor's Center	Grand Staircase-Escalante National Monument (GSENM)	Cannonville
2003	Visitor's Center	GSENM	Escalante
2003	Visitor's Center	U.S. Forest Service	Red Canyon
In Planning Stages	Visitor's Center and Museum	Escalante Center	Escalante

Another clear message from the public is the importance of preserving the character of the corridor. The landscape, natural values, viewsheds, and traditional functions such as timbering and cattle drives must be considerations in planning. The land is rich in history that needs to be preserved, and much of this history is transportation related. These attributes include the explorations and mapping of the Powell Expedition, the Death Hollow Mail Route (Boulder was the last place in the continental United States to receive mail by mule train), the Cream Cellar route, the road work by the Civilian Conservation Corp in the 30s, and the road over Boulder Mountain that was not paved until 1985.

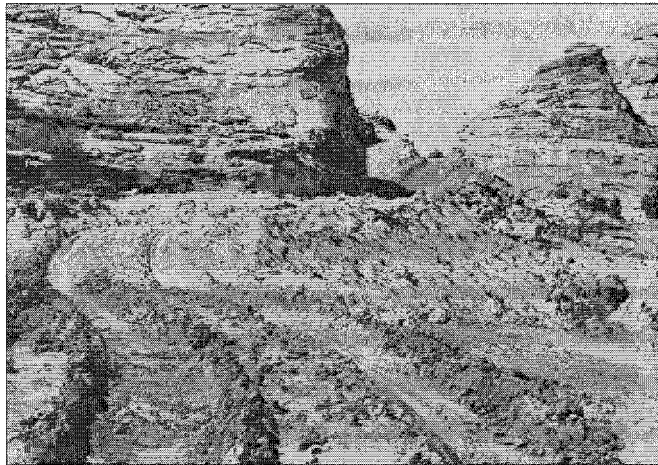


Figure 2. Civilian Conservation Corps, March 1938
photo from UDOT publication

A number of safety and transportation efficiency proposals are identified in this study. These are outlined in Section 6, "SR-12 & SR-63 Solutions". While many issues need attention, public sentiments specifically did not want guardrails along the Hogsback, where a breathtaking drop starts from the highway shoulder to the bottom of Calf Creek Canyon on the west, and to Boulder Creek Canyon on the east. Here the road commands the respect of users and crossing the Hogsback is part of the experience of traveling the SR-12 and SR-63 corridors.

2.0 INTRODUCTION

Traveling the Highway 12 Corridor (referring to the vicinities along both SR-12 and SR-63) is a memorable experience for many people. In 1895, it would have been so for Amasa Lyman who, with his wife and children (including 3 husky teen-age sons), spent five excruciating days making the journey from Escalante to Boulder (13 ½ air miles). They took the first wagons with all their worldly possessions over a route similar to the existing highway. Looking across the rock wall canyons from the paved road today it is easy to understand why such a journey would include dismantling the wagons, carrying and reassembling them (Roundy 2000,138-140).

Improvements since Amasa's journey have included Civilian Conservation Corps work in the 1930s, and paving the Boulder Mountain portion in 1985. Today portions of the highway remain somewhat primitive. Road segments have sharp turns, narrow pavement, little or no shoulders, and short sight distances. Transportation pressures are building as people are increasingly drawn to the scenic vistas and the variety of outdoor experiences offered by the mountains, deserts, and canyons along SR-12.



Figure 3. Boulder Mountain Road prior to when it was paved in the early 1980s. Photo from UDOT publication

The function of SR-12 can readily be identified as having state, national, and international importance. It serves as access to Bryce Canyon and Capitol Reef National Parks, Glen Canyon National Recreation Area, Kodachrome, Escalante, and Anasazi State Parks, the Grand Staircase-Escalante National Monument, and the Powell, Escalante, and Teasdale Ranger Districts of the Dixie National Forest. Much of the traffic is from international visitors.

The dramatic increase in bicycle use over the past decade is creating major frustrations to motorists due to conflicts with the traffic mix (cars, RV's, buses, trucks, and bicycles) on roadways that are not compatible with this traffic.

The route serves the timber industry, agriculture, and the other activities of the local economies. It is the transportation connection for a number of communities.

Just as Amasa Lyman accomplished the extraordinary with his first wagon journey, the present competing transportation needs require our best efforts, vision, and planning to

provide for the present and future needs of the corridor. This planning process must include the participation of towns, counties, federal land agencies, various state and federal agencies, business representatives, and participation from the general public.

Four public open houses were held in November of 2000 at the towns of Escalante, Cannonville, Boulder, and Bicknell. These were held to seek input from citizens, local officials, businesses, and public agencies about the issues facing the SR-12 corridor and potential solutions. The meetings were well attended and valuable input was received by records of verbal comments, by written comments on maps provided at the meetings, and by written comments submitted either at the meetings, through mail or E-mail. A summary of comments is included in Appendix "I".

Work group meetings were held as the next step of the evaluation. Public comments were distributed to the public agency partners in this planning effort, and work group meetings were held in the field to evaluate the transportation needs and potential solutions. Listed below are the field work group reviews held and the meeting purposes. See Appendix "J" for further details of the meetings.

November 16, 2001 work group meeting to review highway maintenance issues for the portion of SR-12 through GSENM. Highway maintenance needs off the UDOT ROW were reviewed. Most of this involves maintaining drainages, obtaining borrow material, and the need for equipment and material staging areas.

January 24, 2001 work group review of the western segment of SR-12 from the junction at SR-89 to the Junction of SR-63 near Bryce Canyon. The group also reviewed transportation issues common to the entire corridor length.

April 26, 2001 work group review of the SR-12 segment from Boulder to Torrey

June 27, 2001 work group review of the SR-12 segment from Tropic to Boulder, plus some gateway issues near the junction of SR-12 and SR-89

October 09, 2001 work group review of the SR-12 segment from the junction of SR-63 near Bryce Canyon to Tropic, plus the review of SR-63. A meeting was also held with the manager of Kodachrome State Park to review a request for considering making the park access road a state route.

Solutions proposed are intended to be context sensitive, based upon stake holder input, helpful to local and state economies, and considerate of historical, archeological, geological, and scenic values. Some solutions are presently being implemented, and longer term solutions are considered for the next 20 years.

The solutions needed to meet the needs of a broad spectrum of stakeholders are not able to be suitably and economically performed by any one agency acting

independently. Partnering with concerned local governments and public agencies is essential for being able to accomplish the desired planning and for successful implementation. The partners involved have helped find solutions, and their future cooperation is needed to provide the land, human, and financial resources necessary to implement the plans and to accomplish transportation improvements to the SR-12 corridor. The proposed solutions may be viewed as a journey based upon working together, rather than as a destination to be realized by completing any given projects.

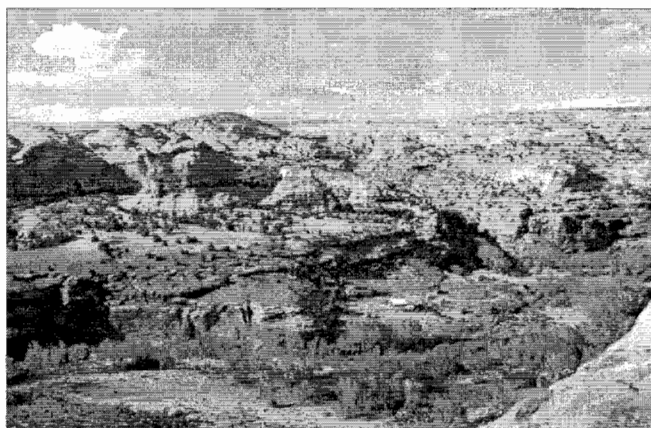


Figure 4. Confluence of Calf Creek and Escalante River
photo by Ted Madden

Corridor characteristics are presented in Section 3, "Identification of Corridor Area", and Section 4, "Corridor Section Identification". A summary of the public out reach efforts is presented in Section 5, "Public Involvement". These sections, and the information in Appendices "A" through "J" will aid in understanding the proposed solutions presented Section 6, "SR-12 & SR-63 Solutions".

3.0 Identification of Transportation Corridor Area

3.1 Corridor Definition

This corridor includes the entire lengths of SR-12 and SR-63. SR-12 begins at SR-89 south of Panguitch and ends at SR-24 near Torrey. SR-63 begins at the border of Bryce Canyon National Park and ends at SR-12. These two highways comprise a transportation corridor because of common purposes and service areas. They provide access to scenic recreational areas in Southern and South-central Utah, and SR-12 is an important lifeline for Garfield and Wayne Counties; it is *the* transportation link for residents of the communities along its route. SR-63 provides a connection to Bryce Canyon National Park for park employees and the traveling public, and is primarily accessed via SR-12.

3.2 Historical Perspective

SR-12 traverses one of the most rugged and remote regions in the United States. The communities of Tropic, Cannonville, Henrieville, Escalante, Boulder, and Grover along SR-12 were all settled in the late 1800's and roads connecting the towns began to be carved into the landscape. Because of seasonal changes and travel distances, numerous different routes were used for travel until SR-12 was built in its current location. Also, because of the location of population centers in the area and the geography along the corridor, as it exists today, was essentially constructed in three sections: SR-89 to Escalante, Escalante to Boulder, and Boulder to Torrey.

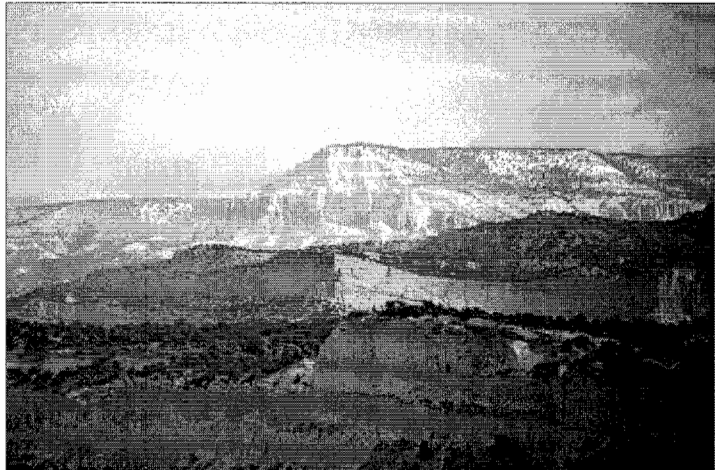


Figure 5 Powell Point looking north from SR-12
Photo by Allysia Angus

The portion of SR-12 from SR-89 to Escalante was built in the late 1950's and early 1960's. Most of the highway was constructed by the State of Utah and was completed by 1958. However, there was some question over who should build the expensive "Dump" section within Bryce Canyon National Park. The controversy finally ended with the Park Service building the five-mile section in 1960-61 and with the state assuming responsibility for maintenance after construction concluded. Copies of the quitclaim deed granting the highway ROW from the State Road Commission of Utah to the National Parks Service, Department of the Interior, and the Memorandum of Understanding regarding the

maintenance agreement is included in Appendix H. The functional classification of SR-12 from SR-89 to SR-63 is "rural other principal arterial", and the functional classification of SR-12 from SR-63 to Escalante is "rural minor arterial".

The portion of SR-12 from Escalante to Boulder was more difficult to construct. Many routes for this section of the road were experimented with from the early 1900's through the 1920's. From 1935 to 1940, the Civilian Conservation Corp (CCC) constructed the "million-dollar road," so called because of the time and money expended for its completion. It was a lower, year-round route between Escalante and Boulder than had previously been used and it traversed cuts in sandstone ledges, a dugway blasted along a sandstone face in Calf Creek Canyon, and the Escalante River. In the late 1950's, a series of projects to reconstruct and pave the road between Escalante and Boulder was begun. In 1958 four miles of the route on Home Bench was paved and in subsequent years other portions of the route were paved. Construction on the final section of road between Escalante and Boulder began in 1970 and this section of SR-12 was dedicated the following summer. The functional classification of SR-12 from Escalante to Boulder is rural minor arterial.

The portion of SR-12 from Boulder to Torrey began to take shape in the early 1890's when a Wayne County family traveled around the east end of Boulder Mountain by way of cattle trails and settled in the location of present-day Boulder. Even though it was impassable in the winter, the family's trail from Grover to Boulder was the principal wagon route and main access from Boulder for more than 40 years. During the Great Depression of the 1930's, the trail was improved for use by motor vehicles when the CCC constructed a gravel road between Boulder and Grover. These improvements, along with the year-round road between Boulder and Escalante, ended the long isolation of Boulder residents, who were the last people in the continental United States to receive mail by pack mule.

During the late 1950's and most of the 1960's, the road from Boulder to SR-24 was part of the State Highway System, but funds to improve and pave the road were not found during this time period. Around 1970, jurisdiction of the road from Boulder to Grover was transferred back to Wayne County and, in the early 1970's, the county completed paving the route from SR-24 through Grover to the Dixie National Forest boundary. In 1976, the Utah Transportation Commission adopted a letter of intent to add the road from Boulder to Grover back onto the State Highway System as soon as federal money for its construction became available. Construction on this final section of SR-12, from Boulder to Grover, began in the early 1980's and was completed in 1985. The functional classification of SR-12 from Boulder to Torrey is "rural minor arterial".

The initial grade for SR-63 was built as a Forest Project by the Road Commission in the early 1920's. The road was paved in the mid-1930's, then resurfaced and widened in the late 1930's. Throughout most of its history, SR-63 existed as a spur of SR-12. In 1975, it was designated as SR-63 by Utah State legislative action. The functional classification of SR-63 is "rural major collector".

3.3 Demographics and Economics

The SR-12 corridor lies within Garfield and Wayne Counties and includes the communities of Panguitch, Tropic, Cannonville, Henrieville, Escalante, Boulder, Grover, Teasdale, and Torrey. Populations are projected from 1990 baseline census data and were obtained from the Governor's Office of Planning and Budgeting (GOPB). Other demographic data was obtained from the U.S. Census Bureau and the Utah GOPB. Tables 3-1 and 3-2 summarize the data.

Garfield County depends more on tourism and recreation for employment than any other county in the state. With Bryce Canyon National Park and Lake Powell/Glen Canyon National Recreation Area, among others, the county attracts many visitors each year. Despite some rather substantial growth in non-farm jobs in recent years, Garfield County exhibits one of the highest unemployment rates in the state. This is due to the seasonal nature of the tourist economy. Contrary to conditions indicated by the unemployment rate, workers are often hard to find during the busy summer months.

Garfield County's population in the year 2000 was 4,735, with an average annual growth rate of 1.8% over the previous 10 years and an unemployment rate of 8.3%. Panguitch, Tropic, Cannonville, Henrieville, Escalante and Boulder have populations of 1,528, 464, 171, 177, 968, and 183 respectively. The top employers are Ruby's Inn, Garfield County School District, U.S. Government, Garfield Memorial Hospital, South Central Utah Telephone, Garfield County, Utah Forest Products, State of Utah, AmFac, Bryce Canyon Western Town, Offshore Marina Inc., and Bryce Canyon Pines.

Wayne County has recently moved away from its totally agrarian image. Tourism and residential care have helped push job growth rates up in recent years. This increased employment expansion has pushed unemployment rates down to their lowest levels in more than four decades. The population is increasing, houses are being built, and wages are moving upward.

Wayne County's population in the year 2000 was 2,509, with an average annual growth rate of 1.4% over the past 10 years and an unemployment rate of 5.9%. Torrey has a population of 184. The top employers are Aspen Youth Services, Wayne County School District, U.S. Government, Garrett Enterprises, Wayne County, Security Ranches and Dairy, Capitol Reef Inn and Café, Taft Travel Plaza, Brown Brothers Construction, Wonderland Inn, State of Utah, Chappell Cheese Company, and Royal's Market.

Table 3-1 Demographics and Economics

	Garfield County	Wayne County	State of Utah
Population 2000	4,735	2,509	2,233,169
Avg Annual Growth 1990 to 2000	1.8%	1.4%	2.6%
Unemployment 1999	8.3%	5.9%	3.4%
Most Jobs 2000	Services	Non-Farm Proprietors	Services
Highest Paying Jobs 1999	Mining	Government	Construction
Largest Employer 1999	Ruby's Inn	Aspen Youth Services	
Income Per Capita 1999	\$17,933	\$17,231	\$22,294
Minority Population 2000	5.0%	2.7%	10.8%
Elderly Population 2000	14.3%	13.6%	8.5%
Poverty Population 1997	13.5%	16.4%	10.0%
Disabled Population* 1990	4.4%	4.4%	2.8%

* Unable to work, ages 16-64

Table 3-2 Community Populations

City	1990	2000	2010	2020	2030
Panguitch	1,444	1,528	1,857	2,175	2,573
Tropic	374	464	564	661	781
Cannonville	131	171	224	268	322
Henrieville	163	177	215	252	298
Escalante	818	968	1,176	1,378	1,630
Boulder	126	183	224	262	311
Torrey	122	184	353	522	686

4.0 Corridor Section Identification

Location Map 1 at the beginning of this report shows the locations of SR-12 and SR-63 within the state of Utah.

The total corridor length includes 123.7 centerline miles for SR-12 and 2.6 centerline miles for SR-63. It has been divided into twenty-one segments for evaluation in this study. SR-12 was divided into five main sections based on the location of population centers and general traffic patterns. However, because of variations in traffic volumes, grades, traffic characteristics, and speed limits, four of these five sections were further divided into smaller segments: The Section Maps on the following pages show the road sections in more detail and they show the reference posts (RPs), that are referred to throughout the report. Section One contains one segment, Section Two contains six segments, Section Three contains four segments, Section Four contains two segments, and Section Five contains seven segments. Section Six is comprised of the entire 2.6-mile length of SR-63. Table 4-1 summarizes information about the twenty-one segments.

Table 4-1 Corridor Segments for Evaluation

Seg.	Route	Segment Description	Accum. Mile		Length	# of Lanes	Func. Class
			From	To			
1:	SR-12	Jct. SR-89 to Jct. SR-63	0.00	13.68	13.68	2	2
2a:	SR-12	Jct. SR-63 to N Tropic	13.68	20.95	7.27	2	6
2b:	SR-12	N Tropic to S Tropic	20.95	21.48	0.53	2	6
2c:	SR-12	S Tropic to W Cannonville	21.48	25.64	4.16	2	6
2d:	SR-12	W Cannonville to E Cannonville	25.64	25.95	0.31	2	6
2e:	SR-12	E Cannonville to W Henrieville	25.95	29.25	3.30	2	6
2f:	SR-12	W Henrieville to E Henrieville	29.25	29.48	0.23	2	6
3a:	SR-12	E Henrieville to "The Blues"	29.48	40.134	10.654	2	6
3b:	SR-12	Over "The Blues"	40.134	41.457	1.323	2	6
3c:	SR-12	"The Blues" to W Escalante	41.457	59.16	17.703	2	6
3d:	SR-12	W Escalante to SE Escalante	59.16	60.49	1.33	4	6
4a:	SR-12	SE Escalante to Hole-in-the-Rock Road	60.49	64.82	4.33	2	6
4b:	SR-12	Hole-in-the-Rock Road to W Boulder	64.82	83.77	18.95	2	6
5a:	SR-12	W Boulder to Forest Boundary	83.77	87.92	4.15	2	6
5b:	SR-12	Forest Boundary to N Boulder	87.92	92.96	5.04	2	6
5c:	SR-12	N Boulder to Garfield/Wayne County Line	92.96	111.21	18.25	2	6
5d:	SR-12	Garfield/Wayne County Line to Forest Boundary	111.21	115.74	4.53	2	6
5e:	SR-12	Forest Boundary to Grover	115.74	117.00	1.26	2	6
5f:	SR-12	Grover to Teasdale Road	117.00	118.95	1.95	2	6
5g:	SR-12	Teasdale Road to Jct. SR-24	118.95	123.67	4.72	2	6
6:	SR-63	Bryce Canyon N.P. to Jct. SR-12	0.00	2.65	2.65	2 - 5	7

SR 12 Section 1

1:90000

Legend



SR 63



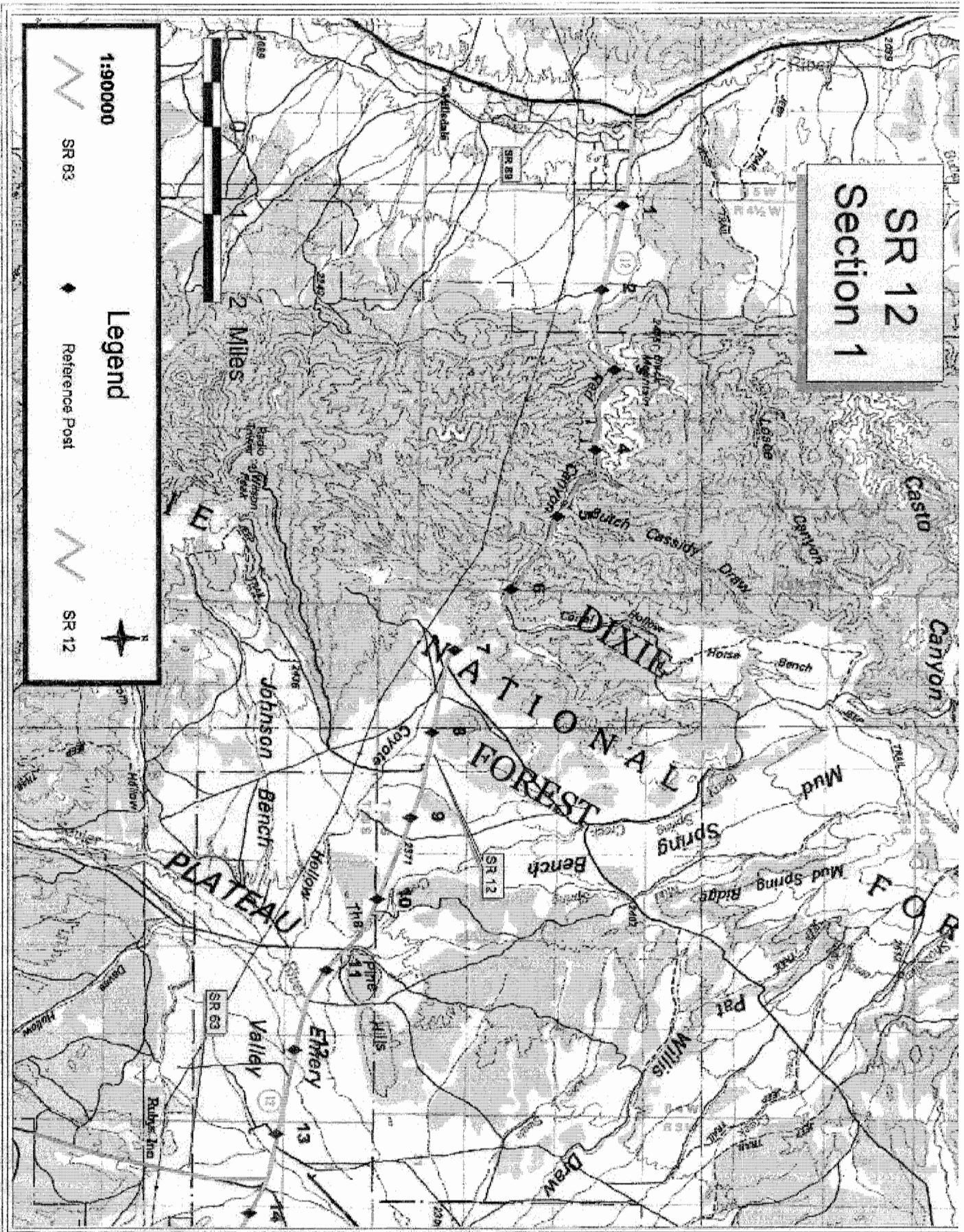
Reference Post



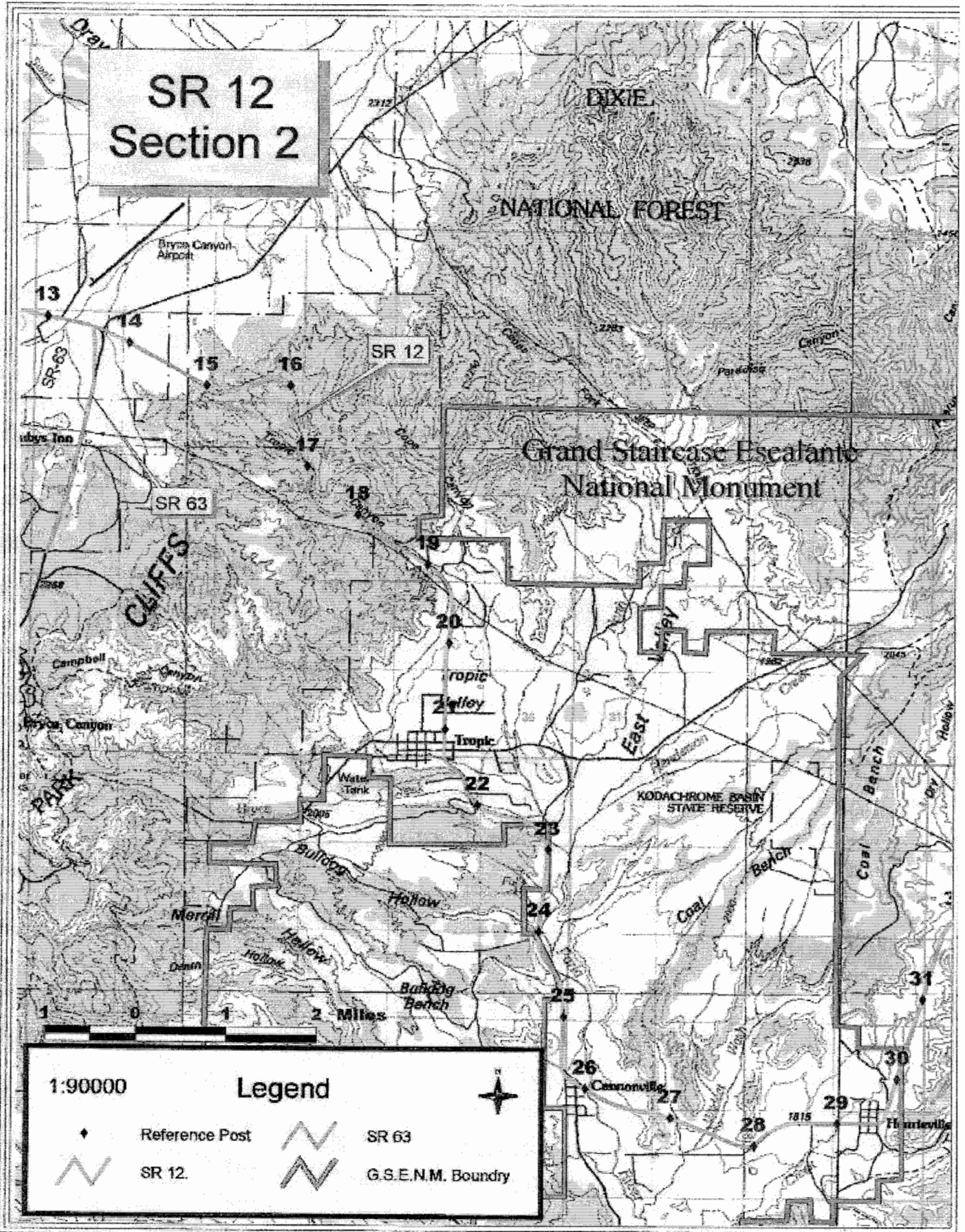
SR 12



2 Miles



SR 12 Section 2



SR 12
Section 3

Dixie National Forest

Grand Staircase-Escalante National Monument

Escalante

Panguitch

Hatch

Legend

- Reference Post
- SR 12
- G.S.E.N.M. Boundry

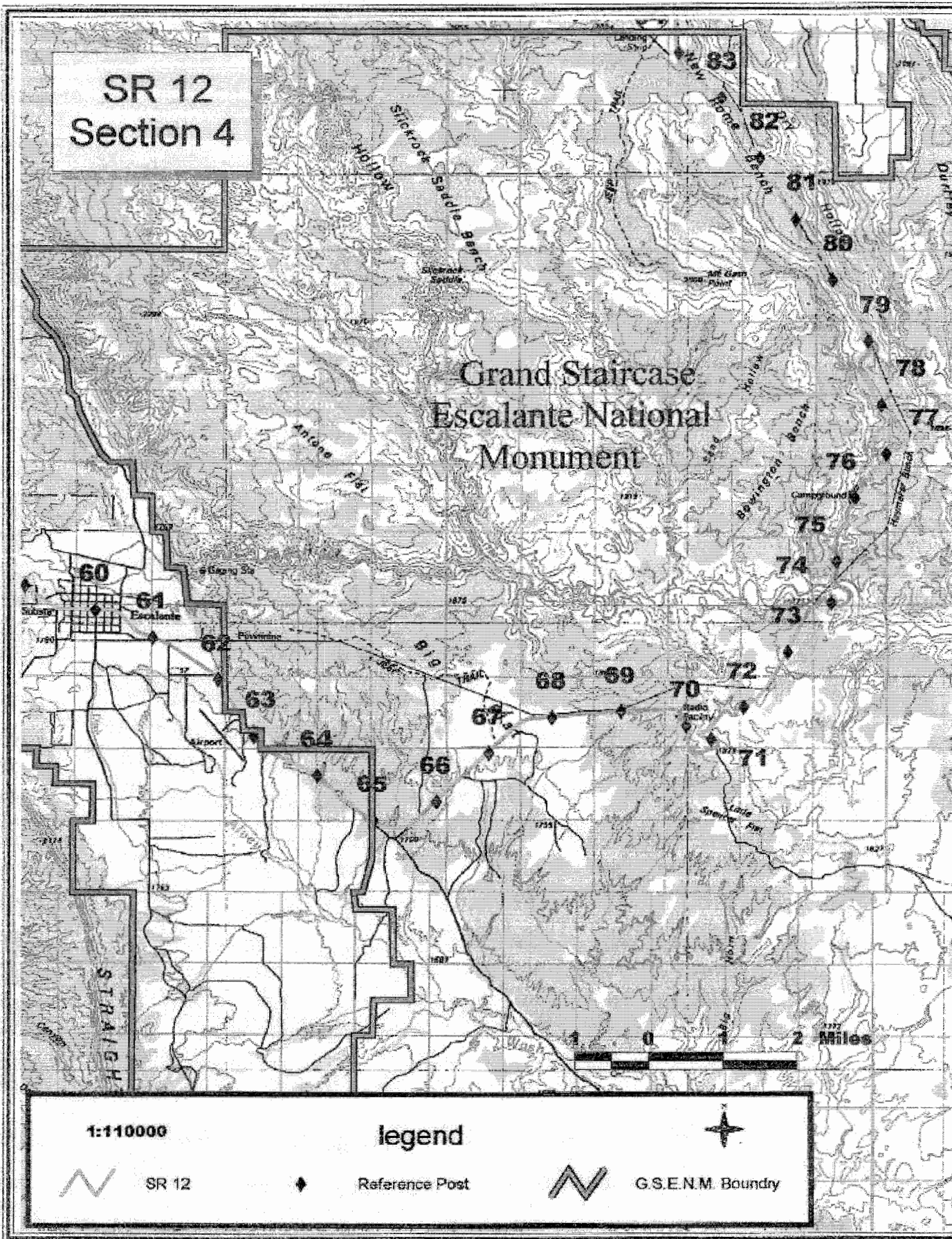
Scale: 0 2 4 6 Miles

North Arrow

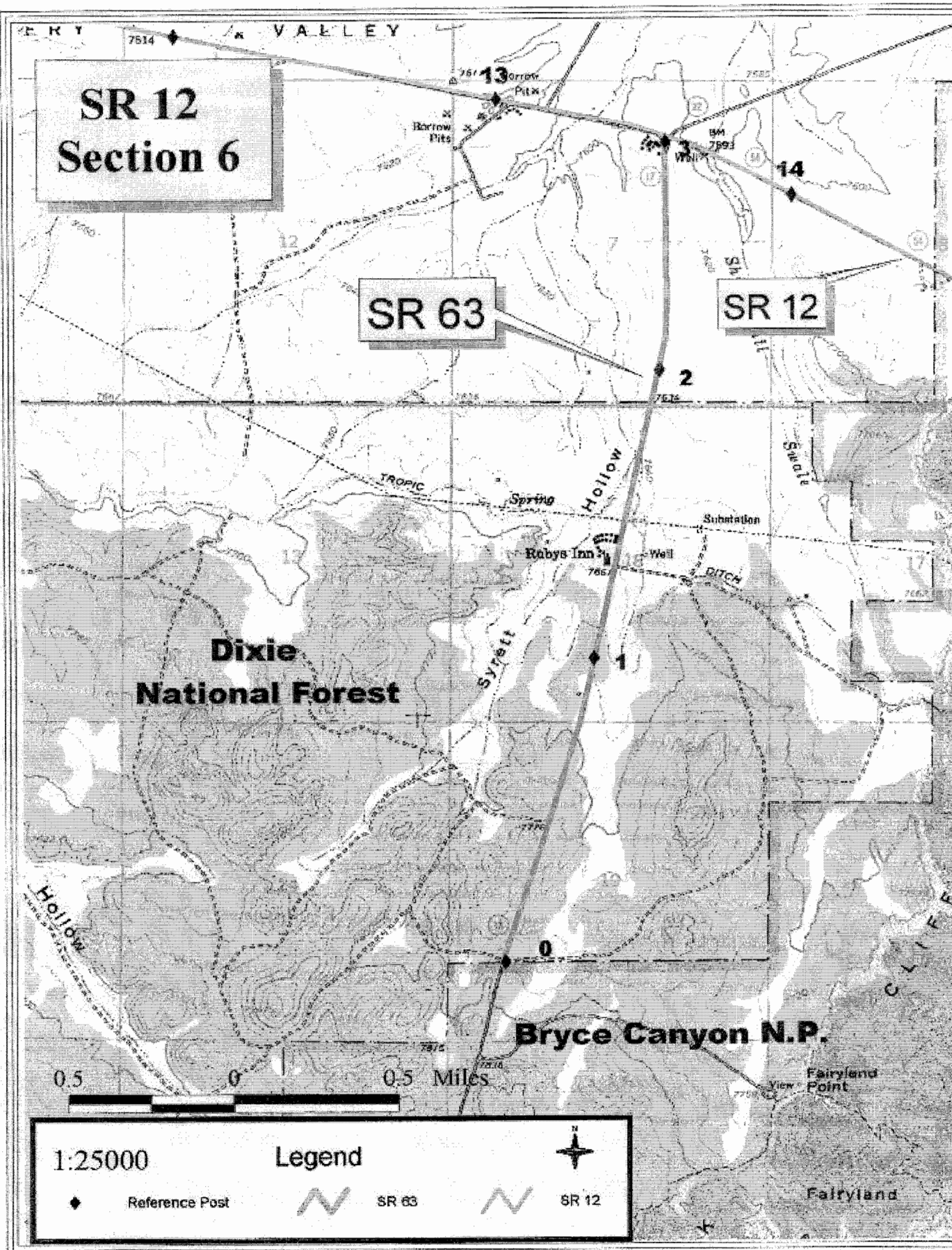
Map Details:

- Topographic Features:** Table Cliff Plateau, Canaan Peak, Barney Top, Griffin Pt, Mud Spring Draw, Sawmill, Corn Creek Mine, Cherry Creek Mine, Upper Valley Guard Station, Oil well, Horse, Right Fork, Hand, Escalante Canyon, Panguitch, Hatch, Escalante Forest Station, Substation, Escalante, 5773, 783, 7060, 7240, 7130, 6090, 6020, 7040, 6005, 6020, 6005, 7830, 7840, 7940, 8330, 8340, 8350, 8360, 8370, 8380, 8390, 8400, 8410, 8420, 8430, 8440, 8450, 8460, 8470, 8480, 8490, 8500, 8510, 8520, 8530, 8540, 8550, 8560, 8570, 8580, 8590, 8600, 8610, 8620, 8630, 8640, 8650, 8660, 8670, 8680, 8690, 8700, 8710, 8720, 8730, 8740, 8750, 8760, 8770, 8780, 8790, 8800, 8810, 8820, 8830, 8840, 8850, 8860, 8870, 8880, 8890, 8900, 8910, 8920, 8930, 8940, 8950, 8960, 8970, 8980, 8990, 9000, 9010, 9020, 9030, 9040, 9050, 9060, 9070, 9080, 9090, 9100, 9110, 9120, 9130, 9140, 9150, 9160, 9170, 9180, 9190, 9200, 9210, 9220, 9230, 9240, 9250, 9260, 9270, 9280, 9290, 9300, 9310, 9320, 9330, 9340, 9350, 9360, 9370, 9380, 9390, 9400, 9410, 9420, 9430, 9440, 9450, 9460, 9470, 9480, 9490, 9500, 9510, 9520, 9530, 9540, 9550, 9560, 9570, 9580, 9590, 9600, 9610, 9620, 9630, 9640, 9650, 9660, 9670, 9680, 9690, 9700, 9710, 9720, 9730, 9740, 9750, 9760, 9770, 9780, 9790, 9800, 9810, 9820, 9830, 9840, 9850, 9860, 9870, 9880, 9890, 9900, 9910, 9920, 9930, 9940, 9950, 9960, 9970, 9980, 9990, 10000.
- Geographic Labels:** ESCALANTE, TABLE CLIFF, PLATEAU, BARNEY TOP, GRIFIN PT, MUD SPRING DRAW, SAWMILL, CORN CREEK MINE, CHERRY CREEK MINE, UPPER VALLEY GUARD STATION, OIL WELL, HORSE, RIGHT FORK, HAND, ESCALANTE CANYON, PANGUITCH, HATCH, ESCALANTE FOREST STATION, SUBSTATION, ESCALANTE, 5773, 783, 7060, 7240, 7130, 6090, 6020, 7040, 6005, 6020, 6005, 7830, 7840, 7940, 8330, 8340, 8350, 8360, 8370, 8380, 8390, 8400, 8410, 8420, 8430, 8440, 8450, 8460, 8470, 8480, 8490, 8500, 8510, 8520, 8530, 8540, 8550, 8560, 8570, 8580, 8590, 8600, 8610, 8620, 8630, 8640, 8650, 8660, 8670, 8680, 8690, 8700, 8710, 8720, 8730, 8740, 8750, 8760, 8770, 8780, 8790, 8800, 8810, 8820, 8830, 8840, 8850, 8860, 8870, 8880, 8890, 8900, 8910, 8920, 8930, 8940, 8950, 8960, 8970, 8980, 8990, 9000, 9010, 9020, 9030, 9040, 9050, 9060, 9070, 9080, 9090, 9100, 9110, 9120, 9130, 9140, 9150, 9160, 9170, 9180, 9190, 9200, 9210, 9220, 9230, 9240, 9250, 9260, 9270, 9280, 9290, 9300, 9310, 9320, 9330, 9340, 9350, 9360, 9370, 9380, 9390, 9400, 9410, 9420, 9430, 9440, 9450, 9460, 9470, 9480, 9490, 9500, 9510, 9520, 9530, 9540, 9550, 9560, 9570, 9580, 9590, 9600, 9610, 9620, 9630, 9640, 9650, 9660, 9670, 9680, 9690, 9700, 9710, 9720, 9730, 9740, 9750, 9760, 9770, 9780, 9790, 9800, 9810, 9820, 9830, 9840, 9850, 9860, 9870, 9880, 9890, 9900, 9910, 9920, 9930, 9940, 9950, 9960, 9970, 9980, 9990, 10000.

SR 12
Section 4



[illegible]



4.1 Corridor Section Summary

4.1.A Traffic Patterns/Characteristics

Tables 4-2, 4-3, and 4-4 present a summary of traffic patterns and characteristics for the corridor segments. An explanation follows the tables. Traffic projection graphs are located in Appendix E.

Table 4-2 Vehicle Mix

Section	Route	Description	Truck	Bus	RV
1	SR-12	Jct. SR-89 to Jct. SR-63	7 %	2 %	8 %
2	SR-12	Jct. SR-63 to Henrieville	6 %	< 1 %	8 %
3	SR-12	Henrieville to Escalante	5 %	< 1 %	8 %
4	SR-12	Escalante to Boulder	1 %	< 1 %	18 %
5	SR-12	Boulder to Jct. SR-24	1 %	2 %	18 %
6	SR-63	Bryce Canyon N.P. to Jct. SR-12	5 %	2 %	12 %

Table 4-3 Traffic Volumes

Seg. No.	Route	Description	1990 AADT	2000 AADT	2020 AADT*	2025 AADT*
1	SR-12	Jct. SR-89 to Jct. SR-63	1,540	2,360	4,176	4,621
2a	SR-12	Jct. SR-63 to N Tropic INCL	835	2,330	3,920	4,312
2b	SR-12	N Tropic INCL to S Tropic INCL	1,250	1,620	2,691	2,930
2c	SR-12	S Tropic INCL to W Cannonville INCL	880	1,323	2,280	2,516
2d	SR-12	W Cannonville INCL to E Cannonville INCL	910	1,345	2,283	2,514
2e	SR-12	E Cannonville INCL to W Henrieville INCL	890	1,395	2,588	2,873
2f	SR-12	W Henrieville INCL to E Henrieville INCL	1,000	1,605	2,895	3,208
3a	SR-12	E Henrieville INCL to "The Blues"	765	1,255	2,143	2,377
3b	SR-12	Over "The Blues"	765	1,255	2,143	2,377
3c	SR-12	"The Blues" to W Escalante INCL	765	1,255	2,143	2,377
3d	SR-12	W Escalante INCL to SE Escalante INCL	2,525	3,610	5,826	6,382
4a	SR-12	SE Escalante INCL to Hole in the Rock Road	550	1,220	2,314	2,587
4b	SR-12	Hole in the Rock Road to W Boulder INCL	550	1,220	2,314	2,587
5a	SR-12	W Boulder INCL to Forest Boundary	590	1,030	3,223	3,771
5b	SR-12	Forest Boundary to N Boulder INCL	430	645	1,124	1,242
5c	SR-12	N Boulder INCL to Garfield/Wayne County	430	645	1,124	1,242
5d	SR-12	Garfield/Wayne County Line to Forest	200	345	667	745
5e	SR-12	Forest Boundary to Grover	200	345	667	745
5f	SR-12	Grover to Teasdale Road	160	305	608	684
5g	SR-12	Teasdale Road to Jct. SR-24	145	420	1,231	1,442
6	SR-63	Bryce Canyon N.P. to Jct. SR-12	1,770	4,145	8,131	9,233

*The 2020 and 2025 AADT's listed are forecasted values.

Table 4-4 Level of Service (LOS)

Seg.	Route	Description	LOS*			
			1990	2000	2020	2025
1	SR-12	Jct. SR-89 to Jct. SR-63	B	C	D	D
2a	SR-12	Jct. SR-63 to N Tropic INCL	B	C	D	D
		"Dump" portion of Segment 2a	C	D	D	D
2b	SR-12	N Tropic INCL to S Tropic INCL	A	A	B	B
2c	SR-12	S Tropic INCL to W Cannonville INCL	A	B	B	B
2d	SR-12	W Cannonville INCL to E Cannonville INCL	B	B	C	C
2e	SR-12	E Cannonville INCL to W Henrieville INCL	A	B	B	B
2f	SR-12	W Henrieville INCL to E Henrieville INCL	A	B	C	C
3a	SR-12	E Henrieville INCL to "The Blues"	B	B	C	C
3b	SR-12	Over "The Blues"	B	C	D	D
3c	SR-12	"The Blues" to W Escalante INCL	A	B	B	B
3d	SR-12	W Escalante INCL to SE Escalante INCL	A	A	A	A
4a	SR-12	SE Escalante INCL to Hole in the Rock Road	A	B	C	C
4b	SR-12	Hole in the Rock Road to W Boulder INCL	B	C	D	D
5a	SR-12	W Boulder INCL to Forest Boundary	A	B	C	C
5b	SR-12	Forest Boundary to N Boulder INCL	A	A	B	B
5c	SR-12	N Boulder INCL to Garfield/Wayne County Line	B	B	C	C
5d	SR-12	Garfield/Wayne County Line to Forest Boundary	B	B	B	B
5e	SR-12	Forest Boundary to Grover	A	A	B	B
5f	SR-12	Grover to Teasdale Road	A	A	A	A
5g	SR-12	Teasdale Road to Jct. SR-24	A	A	B	B
6	SR-63	Bryce Canyon N.P. to Jct. SR-12	B	D	E	E

* Level of Service - see Appendix "B" for LOS descriptions

Section One carries traffic along SR-12 from SR-89 to SR-63, via "Red Canyon." The vehicle mix is 83% passenger cars, 7% trucks, 8% RV's, and 2% buses. The majority of the traffic from this section exits SR-12 at Tropic Junction and continues on SR-63 (Section Six) to Ruby's Inn and Bryce Canyon National Park. The AADT for the year 2000 was 2,360 and Level of Service (LOS) was C. Recent AADT estimates have shown a 5.2% growth rate. If the annual traffic growth rate continues through the planning horizon, the section will fall to LOS D by the year 2017.

Section Two carries traffic along SR-12 from SR-63 to E Henrieville. The overall vehicle mix is 85% passenger cars, 6% trucks, 8% RV's, and <1% buses. The year 2000 AADT's for each segment in this section are as follows: Segment 2a, 2,330; Segment 2b, 1,620; Segment 2c, 1,323; Segment 2d, 1,345; Segment 2e, 1,395; Segment 2f, 1,605. Recent AADT growth rates vary between the segments, but the average growth rate for Section 2 is 5.6%. Current LOS's (year 2000) for each segment are as follows: Segment 2a, C, (note an evaluation of the "Dump" portion of Segment 2a yields a current LOS = D); Segment 2b, A; Segment 2c, B; Segment 2d, B; Segment 2e, B; Segment 2f, B. It is expected that Segment 2a will fall to LOS D by the year 2008, Segment 2d will fall to LOS C by 2020, and Segment 2f will fall

to LOS C by 2020. Segment 2b is expected to fall to LOS B in 2001, and remain at LOS B through the planning horizon. Segments 2c and 2e are expected to remain at LOS B through the planning horizon.

Section Three carries traffic along SR-12 from E Henrieville to SE Escalante, via "The Blues." The overall vehicle mix is 86% passenger cars, 5% trucks, 8% RV's, and <1% buses. Segments 3a, 3b, and 3c had AADT's of 1,255 in the year 2000. The year 2000 AADT for Segment 3d was 3,610. The average growth rate for recent AADT's in Section 3 is 5.2%. Current LOS's (year 2000) for each segment are as follows: Segment 3a, B; Segment 3b, C; Segment 3c, B; Segment 3d, A. It is expected that Segment 3a will fall to LOS C by the year 2013, Segment 3b will fall to LOS D by 2009, and that, through the planning horizon, Segment 3c will remain at LOS B and Segment 3d will remain at LOS A.



Figure 6 SR-12 east of Cannonville
Photo by Allysia Angus

Section Four carries traffic along SR-12 from SE Escalante to W Boulder, via the "Hogsback." The overall vehicle mix is 80% passenger cars, 1% trucks, 18% RV's, and <1% buses. Segments 4a and 4b each had AADT's of 1,220 in the year 2000. Also, in the year 2000, segment 4a's LOS was B, while segment 4b's LOS was C. The average growth rate shown by recent AADT's through Section 4 is 3.4%. Segment 4a is expected to fall to LOS C in the year 2016 and remain in LOS C through the planning horizon. Segment 4b is expected to fall to LOS D in the year 2012 and remain in LOS D through the planning horizon.

Section Five carries traffic along SR-12 from W Boulder to SR-24 near Torrey, via Boulder Mountain. The overall vehicle mix is 79% passenger cars, 1% trucks, 18% RV's, and 2% buses. The year 2000 AADT's for each segment in this section are as follows: Segment 5a, 1,030; Segment 5b, 645; Segment 5c, 645; Segment 5d, 345; Segment 5e, 345; Segment 5f, 305; Segment 5g, 420. Recent AADT growth rates vary greatly between the segments, but the average growth rate for Section 5 is 7.2%. Current LOS's (year 2000) for each segment are as follows: Segment 5a, B; Segment 5b, A; Segment 5c, B; Segment 5d, B; Segment 5e, A; Segment 5f, A; Segment 5g, A.

The following LOS forecast are expected for Section 5 in the planning horizon: Segment 5a is expected to remain at LOS B; Segment 5b is expected to drop to LOS B in 2012 and remain at LOS B through the planning horizon; Segment 5c is expected to drop to LOS C in 2009 and remain at LOS C through the planning

horizon; Segment 5d is expected to remain at LOS B through the planning horizon; Segment 5e is expected to drop to LOS B in 2011 and remain at LOS B through the planning horizon; Segment 5f is expected to remain at LOS A through the planning horizon; Segment 5g is expected to drop to LOS B in 2004 and remain at LOS B through the planning horizon.

Section Six, SR-63, carries traffic from the Bryce Canyon National Park boundary north past Ruby's Inn to SR-12. The overall vehicle mix is approximately 81% passenger cars, 5% trucks, 12% RV's, and 2% buses. The AADT in the year 2000 was 4,145 and the LOS was D. Recent AADT estimates have shown an approximately 9% growth rate. If the annual traffic growth rate continues through the planning horizon, this section will fall to LOS E by the year 2014.

4.1.B Environmental

A cursory review was conducted to identify major, significant, or obvious concerns which may influence planning level decisions for the corridor, and to aid in developing planning level estimates for recommended improvements. A more detailed assessment of the impact to areas of environmental concern will need to be completed prior to advancing projects into the construction program.

4.1.B.1 Land Use Impacts

The corridors traverse farm and range lands, Forest Service Lands, BLM lands, GSENM lands, National Park Service lands, six communities (Tropic, Cannonville, Henrieville, Escalante, Boulder, and Grover), and other private lands. Improvements and transportation development along the SR-12 and SR-63 corridors would likely not change the current land uses.

4.1.B.2 Cumulative and Secondary Impacts and Sustainability

Investigation for this item not completed at the time of publication.

4.1.B.3 Farmland Impacts

No unique farmland soil has been identified along SR-12, but prime or statewide important farmland soils have been identified in various locations. In general, anytime the road crosses irrigated fields a mixture of prime and statewide important farmland, intermixed with farmland not meeting those criteria, will be encountered. The soils change greatly within a short distance. Soils meeting the criteria for prime or statewide important farmland along SR-12 are summarized in Table 4-5. No unique, prime, or statewide important farmland has been identified along SR-63.

Table 4-5, Farmland Classification

Location	Segment	Classification
In Tropic	2a	Prime
Irrigated fields in Tropic	2b	Statewide Important
From Tropic to Henrieville	2c, 2d, 2e, 2f	Statewide Important
East of the Paria River in Cannonville, approximately 1 mile	2e	Prime
Wildcat Wash, if irrigated	2e	Prime
Left Hand Allen Creek area in Upper Valley, approximately 2 miles	3c	Prime
Between the high school and the airport East of Escalante	4a	Prime
In Boulder, East of Boulder Creek	5a	Prime
Irrigated fields in Grover	5f	Prime
Irrigated fields in Torrey, near Jct with SR-24	5g	Prime

4.1.B.4 Social Impacts

Investigation for this item not completed at the time of publication.

4.1.B.5 Relocation Impacts

Transportation development along the corridors will likely not cause relocation of residences or businesses. However, more information may need to be obtained on a project-by-project basis.

4.1.B.6 Economic Impacts

It is expected that there will be minimal economic impacts caused by corridor improvement projects. More detailed investigations will need to be performed as major realignment and reconstruction projects are considered.

4.1.B.7 Considerations Relating to Bicycles and Pedestrians

There is currently a large amount of bicycle and pedestrian traffic along both SR-12 and SR-63. The general opinion in the area is that bicycle and pedestrian traffic will continue to increase, regardless of its degree of compatibility with other traffic along the highway. Therefore, any transportation development along the corridors should seek to raise the level

of safety for all facets of the traveling public. Possible facilities and improvements to accommodate bicycle and pedestrian traffic include the following: informational signing, crosswalks, bicycle/pedestrian lanes, and separated bicycle/pedestrian trails.

4.1.B.8 Air Quality Impacts

This area of Utah is classified as an attainment area for the National Ambient Air Quality Standards (NAAQS), and is not expected to violate those standards through the planning horizon. However, a more extensive investigation of local conditions will need to be performed on a project-by-project basis.

4.1.B.9 Noise Impacts

Investigation for this item not completed at the time of publication.

4.1.B.10 Water Quality Impacts

During projects, best management practices should be used for erosion and sediment control where encroachment on a water resource is a possibility. Sections 4.1.B.11 and 4.1.B.12 identify locations of water resources and wetland areas along the corridor.

4.1.B.11 Permits

Table 4-6 shows locations where stream alteration permits may be needed, if box culverts are to be lengthened, or if other work will impact stream channels.

Table 4-6 Potential Stream Alterations Permit Locations

Seg.	Route	Location (R.P.)	Description and Other Notes
1	SR-12	0.11	Sevier River crossing
1	SR-12	2.6	Red Canyon Wash crossing
1	SR-12	4.2	Box Culvert
1	SR-12	4.9	North Fork Red Canyon Wash crossing (Butch Cassidy Draw)
1	SR-12	6.3	Wash crossing
1	SR-12	11.6	East Fork Sevier River crossing
2a	SR-12	16.6	Box Culvert
2a	SR-12	16.5 - 19	Paria River wash adjacent to road (L)
2a	SR-12	17.3	Water Canyon Wash(near Mossy Cave Trailhead)
2a	SR-12	17.7	Narrow Box Culvert
2b	SR-12	21.3	Campbell Creek crossing
2c	SR-12	21.9	Bryce Canyon Wash crossing

Table 4-6 continued, Potential Stream Alterations Permit Locations

Seg.	Route	Location (R.P.)	Description and Other Notes
2c	SR-12	24.0	Big Wash crossing
2c/2d	SR-12	25.9 - 26.1	Paria River crossing (in Cannonville)
2e	SR-12	27.0	Box Culvert
2e	SR-12	27.5	Wildcat Wash crossing (Narrow Box Culvert)
2e	SR-12	29.0	Dry Wash crossing
3a	SR-12	36.1 - 37	Henrieville Creek wash adjacent to road (R)
3a	SR-12	37.1	Henrieville Creek crossing (Smith's crossing)
3a/3b	SR-12	39.4 - 40.4	Wash adjacent to road (R)
3c	SR-12	44.0	Box Culvert
3c	SR-12	45.2	Stream crossing
3c	SR-12	47.5	Box Culvert
3c	SR-12	48.6	Allens Wash (Box Culvert)
3c	SR-12	49.3 - 55	Wash adjacent to road (R)
3c	SR-12	53.1	Upper Valley Wash crossing
3c	SR-12	56.7 - 56.9	Wash adjacent to road (L)
3c	SR-12	57.5	Wash adjacent to road (L)
4b	SR-12	74.3	Escalante River crossing
4b	SR-12	74.0 - 75.2	Calf Creek adjacent to road (R)
4b	SR-12	75.0	Calf Creek crossing
4b	SR-12	75.2 - 75.7	Calf Creek adjacent to road (L)
5a	SR-12	86.3	Boulder Creek crossing
5b	SR-12	88.9	West Deer Creek crossing
5b	SR-12	91.5	Box Culvert
5c	SR-12	93.0	Stream crossing
5c	SR-12	97.4	Stream crossing
5c	SR-12	97.9	Friskey Creek crossing
5c	SR-12	99.6	Steep Creek crossing
5c	SR-12	105.6	Oak Creek crossing
5c	SR-12	106.1	Stream crossing
5c	SR-12	106.7	Pleasant Creek crossing
5c	SR-12	107.2	Stream crossing
5c	SR-12	107.5	Wildcat Creek crossing
5c	SR-12	111.1	Chokecherry Creek crossing
5d	SR-12	112.1	Singletree Creek crossing
5d	SR-12	113.9	Rock Creek crossing (Box Culvert)
5d	SR-12	115.0-115.5	Stream adjacent to road (L)
5d	SR-12	115.5	Stream crossing
5g	SR-12	119.9	Stream crossing
5g	SR-12	120.3	Stream crossing
5g	SR-12	121.2	Fremont River crossing
5g	SR-12	121.9	Stream crossing

4.1.B.12 Wetland Impacts

On November 7, 2001, an inventory of wetlands along the SR-12 and SR-63 corridors was conducted. Table 4-7 shows the approximate locations, by accumulated mile, of wetland areas observed near the roadway.

Table 4-7 Wetland Areas

Segment	Route	Location (Acc. Mi.)
1	SR-12	0.11
1	SR-12	0.9
1	SR-12	13.68
2c	SR-12	24.3 - 24.5
3a	SR-12	36.1 - 37
3a	SR-12	36.1 - 36.4
3c	SR-12	44.0
3c	SR-12	45.2
3c	SR-12	45.3 - 45.4
3c	SR-12	47.5
3c	SR-12	48.0
3c	SR-12	54.7 - 55.0
4b	SR-12	74.8 - 75.2
5a	SR-12	87.3
5b	SR-12	91.5
5c	SR-12	93.0
5c	SR-12	96.4
5c	SR-12	103.3
5c	SR-12	107.5
5f	SR-12	117.1 - 117.5
5f	SR-12	118.1 - 118.2
5g	SR-12	121.2
5g	SR-12	121.4 - 122.3
5g	SR-12	122.0 - 122.3
5g	SR-12	123.4 - 123.5
6	SR-63	1.5 - 1.7
6	SR-63	2.65

4.1.B.13 Wildlife Impacts

According to the State of Utah, Division of Wildlife Resources, there are six game species whose habitat intersects the SR-12 and SR-63 corridors. Table 4-8 summarizes the habitat areas to which the highway is adjacent and those which the highway intersects. For maps detailing these habitats, as well as other habitat areas slightly removed from the highway corridor, see Appendix "G".

Table 4-8 Wildlife Game Species

Wildlife Specie	Location along corridors
Black Bear	SR-12: Across corridor, near The Blues; Across corridor, from north of Boulder to north of Grover
Blue Grouse	SR-12: Across corridor, from north of Boulder to county line
Elk	SR-12: Across corridor, from Red Canyon to Jct SR-63; North of corridor, from Upper Valley to Escalante; Across corridor, from Escalante to Grover
Elk Calving	SR-12: Across corridor, from Deer Creek Lake area to county line
Mule Deer	SR-12: North of corridor, from Jct. SR-89 to Red Canyon; South of corridor, from top of Red Canyon to top of "The Dump"; Across and north of corridor, from The Blues to Escalante; Across corridor, from Haymaker Bench to Torrey; SR-63: Across entire corridor
Mule Deer Fawning	SR-12: Across corridor, from Steep Creek to county line;
Pronghorn Sheep	SR-12: North of corridor, near Jct. SR-89; Across corridor, from top of Red Canyon to Jct. SR-63; SR-63: North and west of corridor, near Jct. SR-12
Sage Grouse Brooding	SR-12: Across corridor, from Jct. SR-89 to mouth of Red Canyon; Across corridor, from top of Red Canyon to top of "The Dump" SR-63: Across entire corridor

Although the Sage Grouse's Brooding habitat intersects the SR-12 and SR-63 corridors, as indicated in the table, the Sage Grouse Wintering habitat does not. The Wintering habitat is located west of Bryce Junction, near Antimony (approx 30 miles north of the SR-12 corridor), and southwest of Bicknell (approx 15 miles west of the SR-12 corridor).

Also, other species, which are not considered game species, may be present in the corridor areas. Therefore, more investigation on impacts to wildlife species will be needed on a project-by-project basis.

4.1.B.14 Flood Plain Impacts

According to flood insurance maps obtained from the Federal Emergency Management Agency (FEMA), there are some areas of SR-12 which come in contact with the 100-year floodplain. Any improvements or development within the 100-year floodplain must ensure that the 100-year base flood elevation will not be increased. Table 4-9 summarizes some locations of the 100-year flood plain along SR-12.

Table 4-9 FEMA 100-Year Flood Zones

Segment	Accum. Mile	Description
2a	18 - 19.5	Paria River near north & east sides of roadway
2c	21.5	Campbell Creek crossing
2c	22.1 - 23.5	Bryce Creek crosses and is near north side of roadway
2c	23.7 - 24.5	Paria River near east side of roadway
2e	29	Dry Wash crossing
3a	29.5 - 32	Dry Wash near west side of roadway
3a	35.5 - 37.5	Henrieville Creek near south side of roadway
3c	49 - 58	Upper Valley Creek, Escalante River near roadway
4b	74.5	Escalante River crossing

Wayne County is not mapped by FEMA and, except for Loa Town, does not participate in the National Flood Insurance Program (NFIP). There are currently no federal floodplain regulations for Wayne County. Dixie National Forest Lands, and Bryce Canyon National Park Lands are not mapped by FEMA. Areas within towns other than Tropic are either not mapped by FEMA, or they have separate floodplain maps that were not made available at the time of this report. SR-63 is also not identified on any NFIP maps. Therefore, the possibility exists that areas of SR-63 and SR-12, in addition to those listed in the above table, may come in contact with the 100-year floodplain. More investigation will be needed on a project-by-project basis.

4.1.B.15 Wild and Scenic Rivers

There are numerous rivers and creeks that intersect the SR-12 and SR-63 corridors. Some sections of the Escalante River and the Paria River drainages are under investigation for inclusion in the Wild and Scenic River system. The potential "Wild River" sections are not in the immediate vicinity of SR-12, but Calf Creek and the Escalante River near SR-12 (north of Head of the Rocks) have been identified and are being protected for potential designation as "Scenic Rivers". The status of Calf Creek and

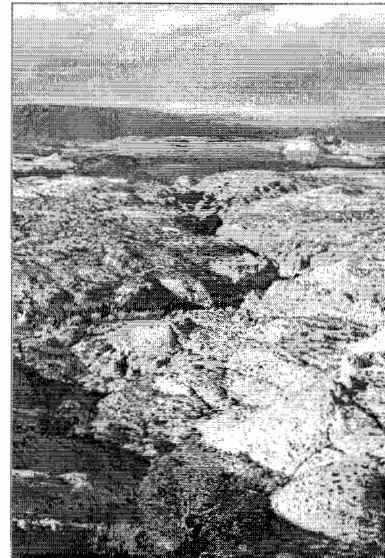


Figure 7 Calf Creek Drainage
photo by Todd Hess

the Escalante River should be confirmed at the time of specific project planning.

4.1.B.16 Threatened or Endangered Species

No endangered species have been observed in the vicinity of the SR-12 and SR-63 corridors. Species listed as “threatened in Utah” that can be expected along the corridors include the Utah Prairie Dog (*cynomys parvidens*), the Bald Eagle (*haliaeetus leucocephalus*), the Southwestern Willow Flycatcher (*empidonax traillii extimus*), and the Last Chance Townsendia (*townsendia aprica*). The Rabbit Valley Gilia (*gilia caespitosa*) is a Candidate Species for listing on the Federal Threatened and Endangered Species list and has been observed in the corridor vicinity.

Other species observed in the corridor which are not listed on the Threatened or Endangered Species list at this time, but are considered sensitive in Utah, include: Western Patch-Nosed Snake (*salvadora hexalepis*), Plateau Striped Whiptail (*cnemidophorus velox*), Roundtail Chub (*gila robusta*), and the Colorado River Cutthroat Trout (*oncorhynchus clarki pleuriticus*).

Further study will be needed on a project-by-project basis to identify any species existing in a project’s locale. It will also be necessary to determine if and how species in the vicinity of a project will be impacted by improvements.

4.1.B.17 Historic and Archeological Preservation

Most of SR-12 has not been inventoried for cultural and fossil resources. The largest inventoried areas are from the junction of SR-89 and SR-12 through the Red Canyon area, and around the junction of SR-12 and SR-63.

The total number of cultural sites currently identified along SR-12 is 118. Of these 118 sites, 14 sites are eligible for listing on the National Register of Historic Places (NRHP), 45 sites are not eligible for NRHP listing, 27 sites have undetermined eligibility, and 32 sites have no available eligibility data. The 14 inventoried sites that are NRHP eligible are distributed along SR-12 as follows: Jct SR-89/SR-12 to Jct SR-12/SR-63 – 1 eligible site; Jct SR-12/SR-63 to Henrieville – 6 sites; Henrieville to Escalante – 6 sites; Escalante to Boulder – 1 site; Boulder to Torrey – 0 sites.

SR-63 has been inventoried for cultural and fossil resources between RP 0.13 and RP 1.19. No sites were found within the highway right-of-way in this area. SR-63 has also been inventoried from Ruby’s Inn (approximately RP 1.3) to the junction of SR-12 and SR-63 (RP 2.65). The few sites found

in this area are located near the junction with SR-12 and were included in the SR-12 site counts.

4.1.B.18 Hazardous Waste Sites

Investigation for this item not completed at the time of publication.

4.1.B.19 Visual Impacts

There are many locations along these corridors which provide exceptional views of the surrounding geography. Some of these locations, including turnouts at the "Head of the Rocks," the "Hogsback," and along Boulder Mountain offer expansive views of the Escalante Canyons region of GSENM, Capitol Reef National Park, the Henry Mountains, and Navajo Mountain, among other land forms.

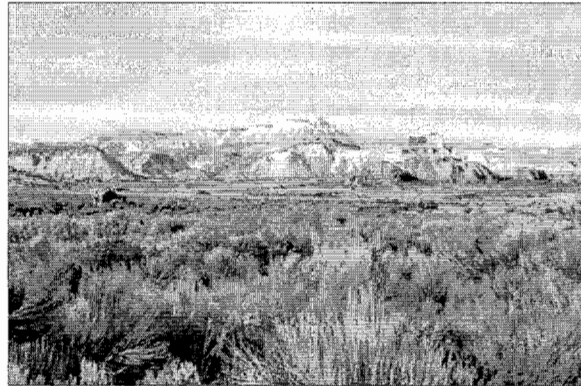


Figure 8 Powell Point from SR-12 Corridor
photo by Ted Madden

The views visible from the roadway and roadside turnouts will likely not change as a result of improvements to the highway corridor. Design of improvements should, however, seek to minimize impacts to "viewsheds" from the highway and from the adjacent area looking towards the highway.

4.1.B.20 Section 4(f) and Section 6(f)

Possible Section 4(f) properties along the SR-12 and SR-63 corridors include structures as well as recreation areas. Three structures along SR-12 were built in 1941 and, therefore, are over 50 years old. These are the Sevier River bridge (C 214) and the two Red Canyon tunnels (V 55 & V 56). However, the Sevier River bridge is on the Statewide Transportation Improvement Program (STIP) to be replaced in Summer 2002.

The recreation areas for which Section 4(f) may apply include: Bryce Canyon National Park, Escalante State Park, and Anasazi Indian State Park.

Two Land and Water Conservation Fund projects along the SR-12 corridor for which Section 6(f) would apply are the Escalante City Park and the Boulder Town Park.

The properties listed above are only those that were identified by a cursory investigation at the time of writing. Other properties may be developed in the future or may not have been identified at this time. Therefore, more detailed information regarding Section 4(f) and Section 6(f) properties will need to be obtained on a project-by-project basis.

4.1.B.21 Invasive Species

An inventory of invasive species along the SR-12 and SR-63 corridors was conducted on November 7, 2001. Table 4-10 shows the approximate locations, by accumulated mile, of the invasive species observed near the roadway. A more detailed mapping should be conducted as part of the NEPA process. Future construction and maintenance activities along this corridor should be conducted in a such a manner as to minimize further spread of invasive species.

Table 4-10 Invasive Species Locations

Segment	Route	Location (Acc. Mi.)
1	SR-12	0.11
1	SR-12	0.9
1	SR-12	13.68
2a	SR-12	20.5-20.75
2c	SR-12	23.1
2c	SR-12	24.3 - 24.5
2e	SR-12	29.0
3a	SR-12	35.2
3a	SR-12	36.1 - 37
3a	SR-12	37.1
3c	SR-12	48.2
3c	SR-12	50.3
3c	SR-12	54.7 - 55.0
3c	SR-12	56.7 - 56.9
4b	SR-12	74.0
4b	SR-12	74.0 - 75.2
5b	SR-12	88.5
5g	SR-12	121.2
5g	SR-12	122.0 - 122.3
5g	SR-12	123.3
6	SR-63	2.0 - 2.65

4.1.C Utilities

Detailed utility information needs to be obtained for each project. This information was not compiled at the time of the publication of this report.

4.1.D Right-Of-Way

Right-of-Way (ROW) widths vary greatly throughout the corridors, from the width of the pavement/edge of disturbance to 400 feet. Table 4-11 summarizes the ROW widths in each section.

Table 4-11 General ROW Summary

Section	Route	Segment Description	ROW (ft)
1	SR-12	Jct. SR-89 to Jct. SR-63	100-400
2	SR-12	Jct. SR-63 to E Henrieville	66-200
3	SR-12	E Henrieville to SE Escalante	100-400
4	SR-12	SE Escalante to W Boulder	varies
5	SR-12	W Boulder to Jct. SR-24	varies
6	SR-63	Bryce Canyon N.P. to SR-12	132-200

Currently, there are numerous unresolved ROW concerns along the SR-12 corridor. In some places, the designated ROW, or allowed limits of operation, are not wide enough for routine maintenance activities. In many areas, there is no designated ROW and the roadway easement is either only a prescriptive easement or is covered under RS 2477 legislation. Areas in which ROW concerns exist include through Bryce Canyon National Park, through GSENM between Escalante and Boulder, through the Dixie National Forest lands on Boulder Mountain, and through BLM and private lands from south of Grover to Torrey. In some of the areas of concern, e.g. Forest Service lands on Boulder Mountain and private lands between the Forest Boundary at RP 115.7 and SR-24, no documents delineating ROW have been located.



Figure 9 "Rip Gut" Fencing in Town of Boulder
Photo by Todd Hess

The "Dump" portion of SR-12 through Bryce Canyon National Park was originally paved by the National Park Service (NPS). A Memorandum of Understanding (MOU) between the State Road Commission of Utah and the NPS was signed in 1959, followed by a Quitclaim Deed, signed in 1960. These two documents allowed for a 66-foot-wide tract of land along the centerline of SR-12 (U-54 at that time) to be deeded from the State Road Commission to the NPS, with the stipulation that the NPS would realign and reconstruct the roadway. After the reconstruction, the State Road Commission (UDOT) would assume all maintenance of the highway. The Quitclaim Deed states that the land tract deeded to the NPS would be "subject to a perpetual easement in the public to the right of way of said State Route U-54 [SR-12]..." The MOU and Quitclaim Deed are included in Appendix "H".

Road widening, shoulder modification, and clear zone improvement projects may require the purchase of additional ROW. Also, many of the current ROW concerns could be resolved by defining and/or obtaining a standard ROW width along the length of the corridor.

4.1.E Safety

Accidents along the corridors occur because of driver error, lack of passing and turning lanes, poor intersection design, speeding, highway alignment deficiencies, animals in the roadway, other causes, or a combination of these. Table 4-12 summarizes accident rates and average severities for accidents along SR-12. The table also lists the statewide expected accident rates and severities for highways with similar functional classes and AADT ranges.

Table 4-12 Accident Rate and Severity

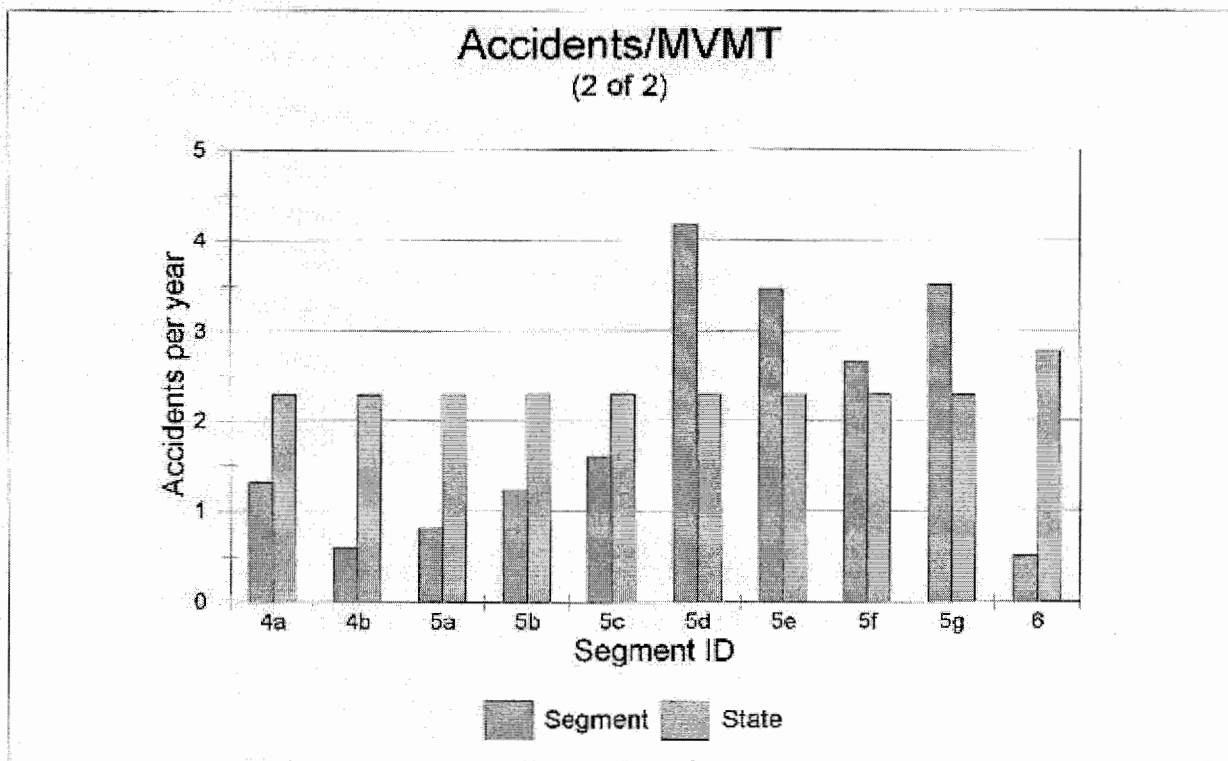
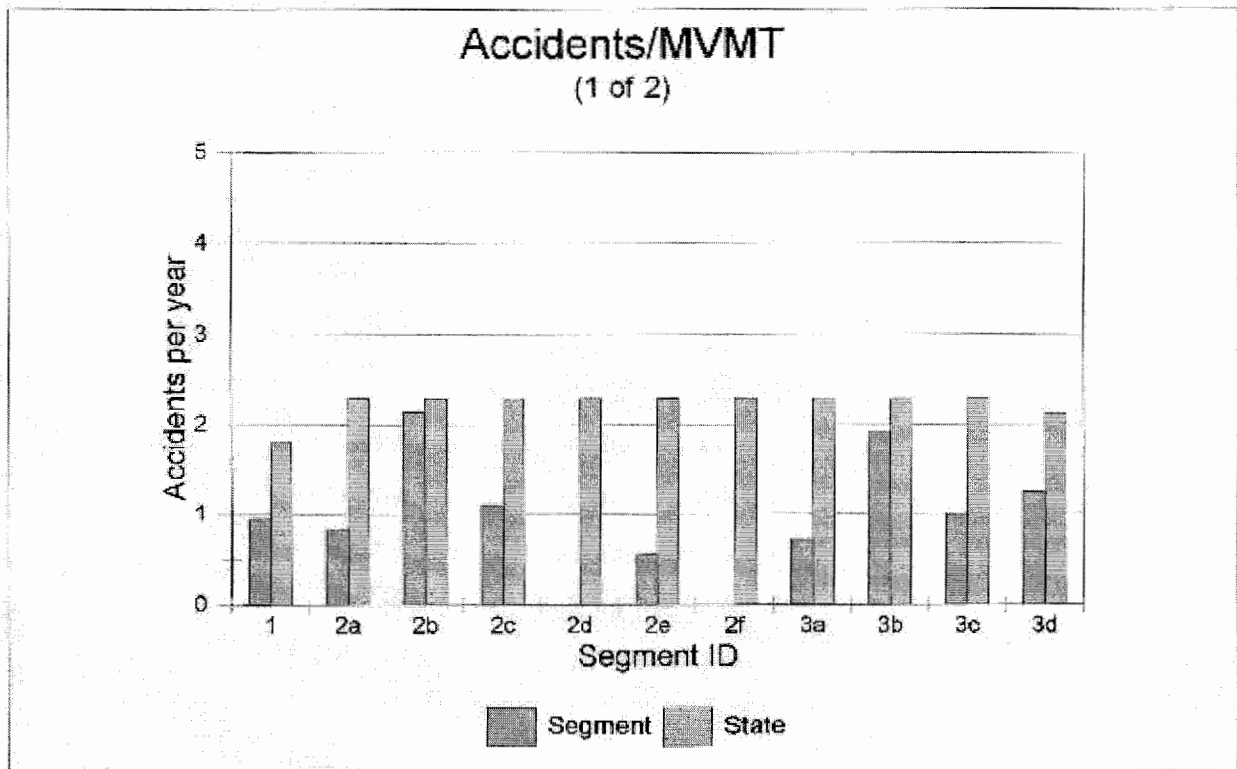
Seg.	Route	Segment Description	Acc/MVMT*			Avg Severity	
			Length	Section	State	Section	State
1	SR-12	Jct. SR-89 to Bryce Canyon Turnoff (SR-63)	13.68	0.95	1.80	1.90	1.63
2a	SR-12	Bryce Canyon Turnoff to N Tropic	7.27	0.82	2.29	2.06	1.67
2b	SR-12	N Tropic to S Tropic	0.53	2.13	2.29	2.00	1.67
2c	SR-12	S Tropic to W Cannonville	4.16	1.09	2.29	1.77	1.67
2d	SR-12	W Cannonville to E Cannonville	0.31	0.00	2.29	0.00	1.67
2e	SR-12	E Cannonville to W Henrieville	3.30	0.54	2.29	2.71	1.67
2f	SR-12	W Henrieville to E Henrieville	0.23	0.00	2.29	0.00	1.67
3a	SR-12	E Henrieville to "The Blues"	10.65	0.71	2.29	1.72	1.67
3b	SR-12	Across "The Blues"	1.32	1.92	2.29	3.43	1.67
3c	SR-12	"The Blues" to W Escalante	17.70	1.00	2.29	2.02	1.67
3d	SR-12	W Escalante to SE Escalante	1.33	1.24	2.12	2.12	1.74
4a	SR-12	SE Escalante to Hole in the Rock Road	4.33	1.31	2.29	1.50	1.67
4b	SR-12	Hole in the Rock Road to W Boulder	18.95	0.60	2.29	1.91	1.67
5a	SR-12	W Boulder to Forest Boundary	4.15	0.81	2.29	2.11	1.67
5b	SR-12	Forest Boundary to N Boulder	5.04	1.22	2.29	1.89	1.67
5c	SR-12	N Boulder INCL to County Line	18.25	1.60	2.29	1.95	1.67
5d	SR-12	County Line to Forest Boundary	4.53	4.17	2.29	2.06	1.67
5e	SR-12	Forest Boundary to Grover	1.26	3.46	2.29	1.67	1.67
5f	SR-12	Grover to Teasdale Road	1.95	2.66	2.29	1.00	1.67
5g	SR-12	Teasdale Road to Jct SR-24	4.72	3.52	2.29	2.18	1.67
6	SR-63	Bryce Canyon N.P. to SR-12	2.65	0.51	2.78	1.45	1.72

*Million Vehicle-Miles Traveled (MVMT) = (AADT*Length*365)/1,000,000

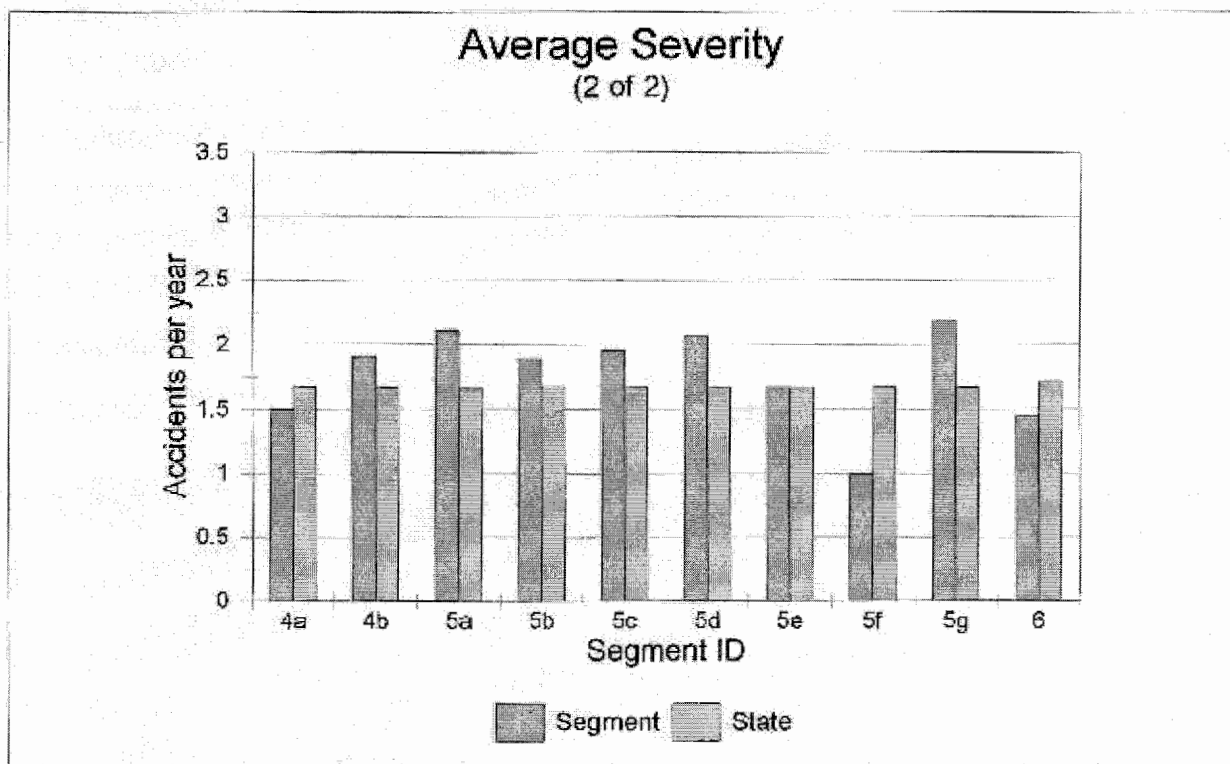
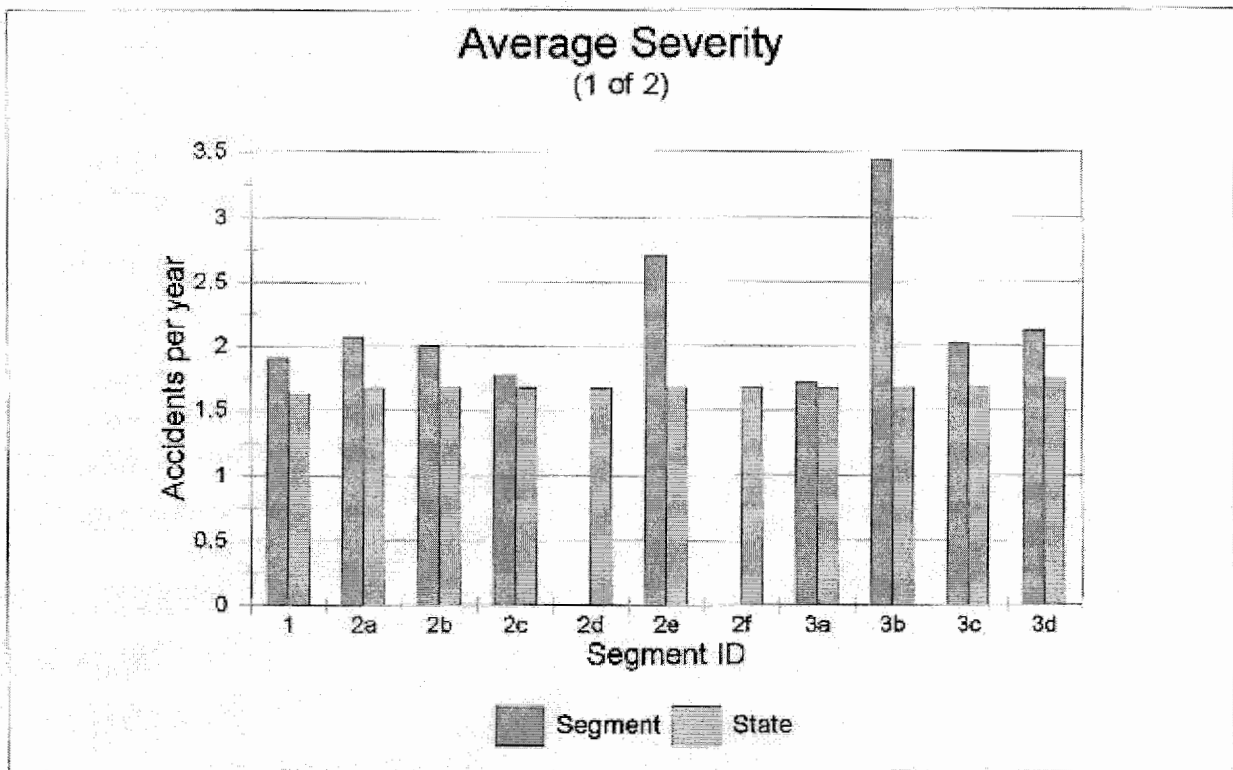
Graphs 4-1 and 4-2 provide bar chart representations of accident rates and severities.

4.1.F Geometric Design

Graph 4-1 Accident Frequency



Graph 4-2 Accident Severity



SR-12 is classified as a “rural other principal arterial” from SR-89 to SR-63, and as a “rural minor arterial” from SR-63 to SR-24. SR-63 is classified as a “rural major collector”. Design speeds, number of lanes, lane widths, and shoulder widths vary along the corridors. UDOT’s Standard Drawings, numbers 815-3A and 815-3B, found in Appendix “C” contain tables for geometric standards. Plots of the horizontal and vertical alignments of each of the sections are also included in Appendix “F”



Figure 10 Boulder Mountain example of curves and little or no shoulder. UDOT Photo

Much of the lengths of SR-12 and SR-63 have two lanes, one in each direction. Table 4-13 shows locations along the corridors where more than one lane in each direction exists, i.e. turning lanes and passing lanes.

Table 4-13 Travel Lanes

Segment	RP	# of Lanes	Comments
1	0.0	4	Junction with SR-89
1	3.3 - 3.4	3	Red Canyon Visitor's Center, turning lanes
1	3.8 - 3.9	3	Red Canyon Campground, turning lanes
1	10.5 - 10.6	3	UDOT's Pines Rest Area, turning lanes
1, 2a	13.5 - 13.8	4	Junction with SR-63
2a	14.0 - 14.8	3	WB Passing lane
2a	15.8 - 16.3	3	WB Passing lane
2b	21.0	3	200 North in Tropic, EB right turn lane
2d	25.8	3	Road to Kodachrome Basin, EB right turn lane
3c	59.0	3	Multiagency Visitor's Center, EB right turn lane
3d	59.2 - 60.3	4	Escalante City, two lanes each direction
4a	60.7 - 60.8	3	Turn Lane for Escalante High School
4a	61.6 - 61.7	3	UDOT Escalante Maintenance Station, EB right turn lane
6	1.1 - 1.5	5	Ruby's Inn, 2 lanes each direction and center turn lane
6	2.5 - 2.65	4	Junction with SR-12

Shoulder widths are substandard along much of SR-12 and Sr-63. Any projects constructed along the corridors should seek to widen the shoulders to current standards. A cursory investigation of shoulder widths was performed on 13 December 2001. Table 4-14 summarizes approximate shoulder widths observed in the roadway segments.

Table 4-14 Shoulder Widths

Segment	Width	Segment	Width
1	2' - 4'	4a	1'
2a	1' - 2'	4b	$\frac{2}{3}' - 4\frac{1}{2}'$
2b	10'+	5a	$\frac{2}{3}' - 4'$
2c	$\frac{2}{3}' - 2'$	5b	1' - 2'
2d	$\frac{2}{3}'$	5c	1'
2e	$\frac{2}{3}' - 4'$	5d	1'
2f	4'	5e	1'
3a	$\frac{2}{3}' - 4'$	5f	1'
3b	2'	5g	1' - 4'
3c	1' - 2'	6	1' - 3'
3d	1' - 10'		

Because of the nature of the remote, mountainous region traversed by the SR-12 corridor, there are numerous sections of the highway which have steep grades. SR-63 is fairly level and has no areas with steep slopes. Table 4-15 lists, by reference post and brief location description, areas of SR-12 which have grades greater than 8%. Other isolated areas with steep slopes or vertical curves may exist along the route. Projects correcting some of these areas are proposed in Section 6.2, "Construction Solutions".

Table 4-15 Areas with Grades > 8%

Segment	RP	Description
1	5 - 7.2	Red Canyon Area
2a	14.8 - 15.7	The "Dump"
2a	20.0	Vertical Curve, north of Tropic
2e	26.6 - 27	Vertical Curve, east of Cannonville
3a, 3b, 3c	38.0 - 41.5	The "Blues"
4b	65.5 - 66	West of "Head of the Rocks"
4b	69.5 - 69.8	West of "Head of the Rocks"
4b	70.2 - 74.2	Below "Head of the Rocks"
4b	75.6 - 77.9	North of Calf Creek
4b	78.3 - 78.9	South of the "Hogsback"
5a	86.5 - 86.7	In South Boulder Town
5c, 5d	93.7 - 115.4	Boulder Mountain
5g	119.2 - 121.8	South of Torrey (non-contiguous sections)

Clear zone deficiencies are present throughout the corridors. Any project constructed along SR-12 and/or SR-63 should seek to improve clear zone deficiencies within the project limits. SR-63 has a few isolated areas of potential clear zone deficiencies which might be remedied by clearing trees. Table 4-16 lists general locations along SR-12 in which clear zone deficiencies exist.

Table 4-16 Areas of Deficient Clear Zone

Segment	Approximate RP	General Description
1	3 - 7.2	Red Canyon
2a	14.8 - 19	The "Dump"
3a, 3b, 3c	39.5 - 41.2	The "Blues"
3c	52.5 - 53.5	Near Upper Valley Creek wash
3c	54.8 - 55.1	Road between cliff and Escalante River wash
4a	61.8 - 62.0	Washes near road
4a	62.2 - 63.0	Washes near road
4b	68 - 72	From Head of the Rocks north
4b	73.5	Cut near Boynton Lookout
4b	73.8 - 74	Boynton Lookout to Escalante River
4b - 5g	74.5 - 119.5	Escalante River - Grover (nearly continuous)
5g	122.3	Road between Cut slope and drop-off
5g	123.0	Sharp turn

Curves are an inherent characteristic of SR-12 as it traverses mountainous and canyon terrain. The more hazardous curves are addressed in the projects suggested in Section 6.2 "Construction Solutions". A summary of these curves is given in Table 4-17.

Table 4-17 Substandard Curves

Segment	Approximate RP	Description
2a	20	Vertical Curve
2e	27 and 28	Vertical Curves
3a and 3b	38 - 41	The "Blues", Horizontal Curves
4b	70 - 80	Head of Rocks to south end of the Hogsback Horizontal Curves
5f and 5g	118 - 123	Grover to Torrey Horizontal Curves

4.1.G Structures

There are 19 structures along SR-12, with span lengths greater than 20-feet, that have evaluations for Structure Sufficiency by the UDOT Structures Division. These include six bridges, nine box culverts, two pipe culverts, and two rock tunnels. There are no structures with over 20-foot spans along SR-63. At the time of this report, the latest inspection of the bridges along SR-12 was in July 2001. The next inspection is scheduled for Summer 2003. See Appendix "D" for UDOT Structures Division's 1998 Recommendations of work needs for structures.

Three of the structures along SR-12, the Sevier River bridge, the Paria River bridge, and the Henrieville Wash (Smith's Crossing) bridge, currently have sufficiency ratings less than 50 out of 100. The Sevier River bridge is a programmed project on the STIP and will be replaced in Summer 2002. In Summer 2000, repairs were made on the rock arch tunnels in Red Canyon. The old shotcrete was removed and new shotcrete was placed. These tunnels have sufficiency ratings of 0, and the remaining 14 structures have sufficiency ratings of above 55 at this time.

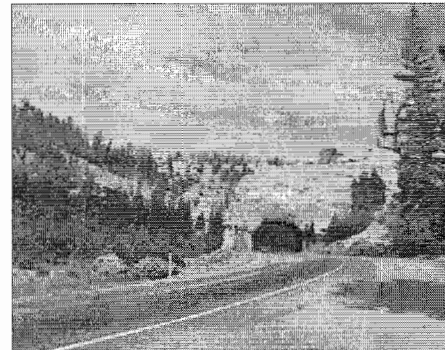


Figure 11 Red Canyon Tunnels
photo by Jerry Sintz

Sufficiency ratings are summarized as follows: 0 = does not carry traffic, 1 - 49 = structurally deficient or obsolete, 50 - 80 = deteriorated, and 80 - 100 = good condition. Bridge preservation programs, based on sufficiency ratings, are as follows: 0 - 100 = routine maintenance, i.e. clean drains, erosion repairs, joint clean/seal; 80 - 100 = preventive treatments, i.e. deck overlays, slope protection, concrete sealants; 50 - 79 = corrective repairs, i.e. deck, column, and beam repairs, approach settlements, parapets & railings; <50 = rehabilitation and replacement.

UDOT Maintenance forces have responsibility for the various bridge structures that include sealing deck joints, removing dirt from around the bearings and bearing seats, updating the terminal ends of approach barriers, placing guardrail, repairing erosion channels behind wingwalls, and clearing culverts.

Some structures are currently very narrow and may need to be widened in the near future. Any structure within the project limits of a road widening project will likely need to be widened.

Table 4-18 summarizes structures along SR-12.

Table 4-18 Structures

Section No.	Structure Number	RP Location	Feature Crossed	Structure Type*	Year Built	Sufficiency Rating
1	C 214	0.110	Sevier River	C	1941	49.1
1	E1852	2.600	Red Canyon Wash	E	1971	68.9
1	V 55	4.650	SR-12 (Rock Arch Tunnel)	V	1941	0.0
1	V 56	4.750	SR-12 (Rock Arch Tunnel)	V	1941	0.0
1	E1854	4.880	Butch Cassidy Wash	E	1971	79.9
1	E1256	11.600	East Fork Sevier River	E	1961	65.9
2a	D 245	17.340	Water Canyon Wash	D	1962	74.9
2c	V1419	21.500	Campbell Creek	V	1958	75.9
2c	E1124	21.900	Bryce Canyon Wash	E	1959	71.5
2c	E1125	24.000	Big Wash	E	1959	71.5
2e	C 281	26.050	Paria River	C	1957	49.2
2e	E1077	27.540	Wild Cat Wash	E	1956	70.7
2e	C 322	29.050	Dry Wash	C	1959	62.0
3a	C 284	37.440	Henrieville Wash	C	1955	45.3
3c	E1091	48.240	Allens Wash	E	1957	73.1
3c	E1092	52.700	Upper Valley Wash	E	1957	82.0
4b	C 784	74.440	Escalante River	C	1994	84.3
4b	V1418	75.100	Calf Creek	V	1964	58.0
5a	E1860	86.510	Boulder Creek	E	1972	82.9

*C = Steel Beam, D = Cast In Place Concrete, E = Box Culvert, V = Other: Pipe, retaining, etc.

4.1.H UDOT Maintenance

The maintenance responsibility for SR-12 and SR-63 is shared by three UDOT Maintenance Stations: Panguitch (RP 0.00-7.25), Escalante (RP 7.25-111.21 and SR-63), and Loa (RP 111.21-123.67). Challenges encountered by the Maintenance Stations include:

- narrow roadway cross-sections,
- steep shoulder drop-offs,
- difficulty in keeping material on the shoulders.
- lack of designated ROW or lack of permission to perform routine - maintenance activities outside of the "edge of disturbance",

-drainage and run-off problems including blocked, plugged, and narrow culverts and wash-outs caused by flooding along the roadway, and rock slides and mud slides.

A special maintenance problem area exists from the junction with SR-89 towards the mouth of Red Canyon (approx. MP 0 - 2). This portion of SR-12 has problems with sinking. Filling and patching are frequently necessary to level the roadway surface and improve the ride. It was recently leveled by UDOT Maintenance, but small "sink holes," along with rutting and shoving, are already appearing in some of the wheel paths.

Another special maintenance problem area exists east of Henrieville (approx. RP 29.5 - 33). Known locally as the "Henrieville Dips," this portion of SR-12 constantly moves and sinks requiring repair. It is necessary each year for Maintenance to place asphalt overlays up to one foot deep in low areas that are created by the movement of the roadway. Sink holes appear near the road and may require several truck loads of base material to restore grade.

There are no known special maintenance problems along SR-63.

4.1.1 Material Borrow Sites

There are active material borrow sites along the SR-12 corridor. Only sites on land managed by federal or state agencies are listed here, although some sites may exist on private lands. The managing agencies include the Bureau of Land Management (BLM), Grand Staircase-Escalante National Monument (GSENM), State and Institutional Trust Lands Administration (SITLA), and the United States Forest Service (USFS). The following is a summary of possible material borrow sites along the corridor.

Site #1701001.2015 (17001) is located along SR-89, north of Hatch in Garfield County, Section 21, Township 36 South, Range 5 West. The BLM is the owner of the site and UDOT's current lease, under permit number UTU-56302, expires May 8, 2015.

Site #1701008.2004 (17008), commonly called the "Panguitch Community Pit," is located in Sections 17 & 18, Township 34 South, Range 5 West, and is also owned by the BLM. UDOT has a current lease, under permit number UTU-71101, to use this site by UDOT Maintenance only. The permit expires March 31, 2004.

Site #1702014.9999 (17014), commonly called the "Smith's Crossing" site, is located just below "The Blues," east of Henrieville. The borrow site is in Sections 3 and 4 of Township 37 South, Range 1 West. GSENM is the owner of the site and UDOT's current lease, under permit number UTU-011171A, is a perpetual lease

which expires January 1, 9999. This is an important site for UDOT Maintenance activities because of the limited number of material borrow sites in the SR-12 and SR-63 Corridors.

Site #1701025.2004 (17025), commonly known as the “Red Canyon Community Pit,” is located in Section 21, Township 35 South, Range 4½ West. The BLM is the owner of this site and the agency has permitted UDOT to use this borrow site for rip-rap material only. UDOT’s current lease, under permit number UTU-71102, expires March 31, 2004.

Site #1702026.9999 (17026) is located near Henrieville in Section 22, Township 37 South, Range 2 West. The GSENM is the owner of the site and UDOT’s current lease, under permit number U-037076, is a perpetual lease with expiration January 1, 9999.

Site #1707093.2006 (17093) is located near Main Canyon, west of Escalante, in Section 16, Township 35 South, Range 2 East. The State and Institutional Trust Lands Administration is the owner of the site and UDOT’s current lease on the material site, under permit MP-247, expires July 29, 2006.

Two additional material sites, #1702022.1993 (17022) & #1702023.1993 (17023) are located within the GSENM for which UDOT no longer has current leases. Since these sites were the UDOT Escalante maintenance crew’s only material borrow sites between Escalante and Boulder Mountain, the sites were used frequently until the leases expired in 1993. UDOT submitted applications and attempted to renew the leases prior to their expirations, but a response was never obtained for renewal or denial. UDOT has been seeking to renew the leases since that time, and is currently working with GSENM to explore the possibility of regaining use of these sites. The following are descriptions of these two material sites.

Site #1702022.1993 (17022), commonly called the “Head of the Rocks” site, is located east of Escalante in Section 22, Township 35 South, Range 4 East. GSENM is the owner of the site and UDOT’s lease, under permit number U-52700, expired March 17, 1993. UDOT Maintenance has received permission to use the material that is currently stockpiled in this site; however, excavation of additional material is not permitted at this time. This site has been the UDOT Escalante maintenance crew’s only source of red material in the area. They have, therefore, been using the stockpiled material very sparingly and are hoping to either have this site re-opened, or have another site with similarly-colored material become available.

Site #1702023.1993 (17023), commonly called the “New Home Bench” site, is located south of Boulder in Section 3, Township 34 South, Range 4 East. GSENM is the owner of the site and UDOT’s lease, under permit number U-51394, expired April 14, 1993.

UDOT and GSENM need to continue working together to find material that will allow for continued maintenance of SR-12 and to meet the needs of the Monument.

The USFS owns a site on Sunflower Flat on Boulder Mountain that could be used as a material source for maintenance purposes. Agreements for this site are pending.

Other material sites may be available, currently or in the future, in the vicinity of SR-12 and SR-63 corridors. For specific projects, more detailed information about the availability of material sites in the project's locale, as well as the type of material available in each site, will need to be obtained from the Region Four Materials Lab.

4.1.J Pavement Management

There are three projects along SR-12 currently on the STIP. The replacement of the Sevier River Bridge (Structure C 214) at RP 0.11 is programmed for 2002. This project will widen the structure and bring it to standard. The two additional projects on the STIP are listed in Concept Development (CD) and are as follows: "Head of the Rocks to New Home Bench" (RP 70 to 78), realignment and reconstruction; and construction of a rest area in Boulder.

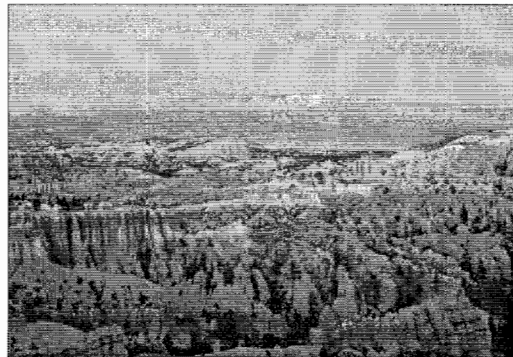


Figure 12 Powell Point from Bryce Canyon
Photo by Ted Madden

Section 6.2 "Construction Solutions" confirms the need and high priority of the Sevier River Bridge replacement and the New Home Bench reconstruction. The proposed rest area in Boulder has been considered for several locations from Torrey to Escalante. The "Solutions" section suggest further evaluation to consider this rest area be for construction in partnership with the Escalante Center east of the Town of Escalante, or in Boulder.

Projects recommended for construction by UDOT Region Four Pavement Management include "Smith's Crossing to Upper Valley" (RP 37.5 to 41.0), realignment and reconstruction, and "Teasdale Junction to SR-24" (RP 119 to 123.7), realignment, widening, and overlay.

Section 6.2 "Construction Solutions" confirms the need and priority for these projects.

Non-pavement projects completed in Summer 2001 include: tunnel repairs in Red Canyon (Structures V 55 & V 56), construction of a bike path through Red Canyon

by the US Forest Service, and a spot improvement project to construct turn lanes at the junction of SR-12 and 100 N in Cannonville.

Table 4-19 shows a recent history of major construction projects, organized by ascending Reference Post, that have been completed along SR-12 in recent years.

Table 4-19 Recent History of Major Construction Projects

Project Year	Project Number	Beginning RP	Ending RP	Length	Project Concept
1984	NF-34(11)	0	7.3	7.37 mi	Chip Seal Coat
1995	SP-9999(367)	0	7.3	7.30 mi	Chip Seal Coat
1991	NF-9999(170)	0	42.7	12.42 mi	Chip Seal Coat
1994	SP-0012(5)7	7.2	70.57	26.92 mi	Chip Seal Coat
1998	SP-0012(7)14	14.08	14.83	0.75 mi	Passing lane construction
1995	SP-9999(366)	21	111.2	30.47 mi	Chip Seal Coat
1984	NF-34(10)	28.1	37.33	9.235 mi	Recycled Asphalt Concrete
1987	NS-9999(31)	42.57	45.35	2.78 mi	Chip Seal Coat
1992	NF-34(16)	59.19	60.33	1.197 mi	Rehabilitation of Escalante Main
1997	SP-0012(8)80	79.5	84	7.24 km	Overlay and chip seal coat
1983	41-1(4)	88	102	14.199 mi	Bituminous surface road
1983	41-2(2)	116	120	4.515 mi	Bituminous surface road
1984	41-1(5),2(3)	106	120	13.532 mi	Bituminous surface road
1988	NT-9999(75)	115.9	119.2	3.3 mi	Chip Seal Coat
1990	NF-34(12)	123.07	123.67	0.602 mi	Bituminous Surface Course

Programming of pavement preservation projects is performed by UDOT's Maintenance Division. The principal preservation method used along SR-12 and SR-63 is a chip seal coat. Table 4-20 shows the most recent chip seal coat projects completed.

Table 4-20 Pavement Preservation Projects

Route	From RP	To RP	Treatment	Year
SR-12	0.0	7.26	Chip Seal	1995
SR-12	7.26	13.7	Chip Seal	2000
SR-12	13.7	20.9	Chip Seal	1996
SR-12	20.9	28.1	Chip Seal	1995
SR-12	28.1	37.5	Chip Seal	2001
SR-12	37.5	38.3	Chip Seal	1994
SR-12	38.3	46.8	Chip Seal	1996
SR-12	46.8	59.4	Chip Seal	1998
SR-12	59.4	70.8	Chip Seal	1994
SR-12	70.8	79.8	Chip Seal	1995
SR-12	79.8	83.9	Chip Seal	1997
SR-12	83.9	88.2	Chip Seal	1999
SR-12	88.2	102.4	Chip Seal	1995
SR-12	102.4	111.36	Chip Seal	1995
SR-12	111.36	123.67	Chip Seal	1995
SR-63	0.0	2.65	Chip Seal	1995

Attempts are made to keep chip seal pavement preservation projects on a 6 or a 7 year rotation. However, difficulties in funding sometimes make that goal difficult to attain. Chip seal projects currently scheduled for Summer 2002 are Tropic to Henrieville (RP 20.64 - 28.12) and Escalante to Head of the Rocks (RP 60.36 - 70.8). A chip seal project through Red Canyon (RP 0.0 - 7.3) is also listed as an alternate if additional funding becomes available.

Only routine maintenance, i.e. crack sealing and chip sealing, has been done on SR-63 since it's original construction. However, the National Park Service recently completed a new shuttle lot adjacent to SR-63, near the junction with SR-12, in connection with the implementation of Bryce Canyon National Park's shuttle system.

Table 4-21 summarizes data from UDOT Region 4 Pavement Management about the pavement and subgrade conditions on SR-12.

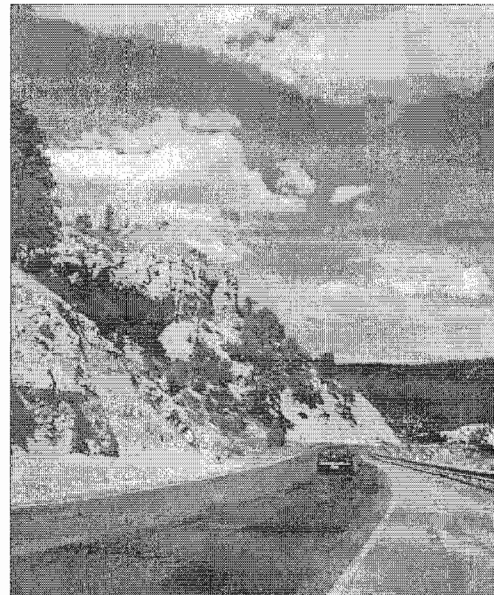


Figure 13 The "Dump" section of SR-12 through Bryce Canyon National Park
photo by Allysia Angus

Table 4-21 SR-12 & SR-63 Pavement and Subgrade Conditions

RP	Ride	Distress	Avg. Rut Depth	Yrs. To Fatigue	Subgrade Strength	Surface Strength	Skid Index
1 to 7	Fair	Ext. Transv. Crks.	0.15"	17 Avg. 14 Min.	Strng./some weak	Strong	Marginal/some
8 to 13	Good	Ext. Transv. Crks.	0.18"	14 Avg. 14 Min.	Strng./some med.	Medium	Marginal/some below std.
14 to 24	Fair	Ext. Transv. Crks. Sig. Long. Crks	0.21"	15 Avg. 6 Min.	Med./some weak	Strng./some med.	Standard/some below std.
25 to 29	Poor	Ext. Transv. Crks. Sig. Long. Crks	0.19"	13 Avg. 10 Min.	Med./some weak	Medium	Standard
30 to 38	Poor	Ext. Transv. Crks. Sig. Allig. Crks	0.16"	17 Avg. 12 Min.	Med./some weak	Strng./some med.	Standard
39 to 48	Poor w/some unacceptable	Ext. Transv. Crks. Sig. Allig. Crks	0.26"	12 Avg. 5 Min.	weak	Med./some weak	Standard
49 to 60	Poor	Sig. Transv. Crks.	0.18"	13 Avg. 2 Min.	weak	Strng./some med.	Standard

Table 4-21 continued, SR-12 & SR-63 Pavement and Subgrade Conditions

RP	Ride	Distress	Avg. Rut Depth	Yrs. To Fatigue	Subgrade Strength	Surface Strength	Skid Index
61 to 64	Poor	Ext. Transv. Crks.	0.18"	10 Avg. 8 Min.	Med./some weak	Medium	Standard
65 to 75	Poor	Ext. Transv. Crks.	0.20"	13 Avg. 5 Min.	Strng./some med.	Med./some weak	Standard/some marginal
76 to 88	Poor	Ext. Transv. Crks.	0.13"	15 Avg. 10 Min.	Strong	Med./some weak	Standard
89 to 99	Fair	Sig. Transv. Crks. Sig. Long. Crks.	0.16"	16 Avg. 14 Min.	Strng./some med.	Strng./some med.	Standard
100 to 111	Fair	Ext. Transv. Crks.	0.12"	16 Avg. 13 Min.	Strng./some med.	Medium	Standard
112 to 117	Fair	Ext. Transv. Crks.	0.13"	17 Avg. 12 Min.	Strng./some med.	Strng./some weak	Standard/some marginal
118 to 123 SR-12	Poor	Ext. Transv. Crks.	0.26"	16 Avg. 13 Min.	Strng./some med.	Med./some weak	Standard
0 to 2.63 SR-63	Poor	Ext. Transv. Crks. Ext. Long. Crks. Ext. Map Crks. Ext. Allig Crks. Sign, Skin and Deep Patching	0.17"	14 Avg. 12 Min.	Strong	Medium	Standard

4.1.K Intermodal Transportation

The U.S. Forest Service completed a bicycle/pedestrian trail through the Red Canyon area in Fall 2001. The trail is approximately five miles long (approximately from RP 2.3 - RP 7.3), and is separated from the SR-12 roadway. The original concept for this trail was to extend it from Panguitch to Bryce Canyon.

With the increased bicycle and pedestrian use of SR-12 and SR-63, there is an increasing need for similar facilities along these corridors which accommodate bicycle and pedestrian traffic. Much of the length of the corridors is currently not compatible with bicycle and pedestrian use, and improvements are needed to maintain safety with increasing use.

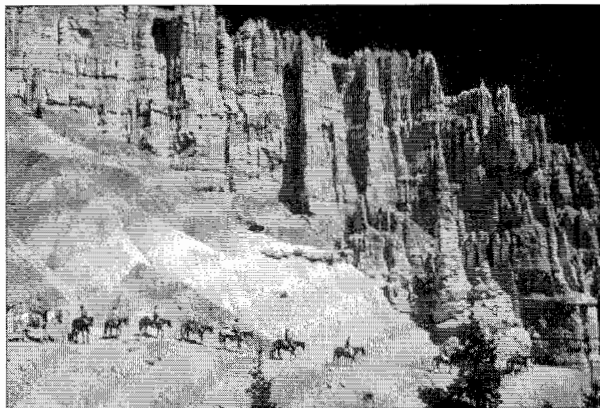


Figure 14 Bryce Canyon near SR-12
Photo by Utah Travel Council

High pedestrian traffic areas along the routes include: near the junction of SR-12/SR-89 between the businesses on opposite sides of SR-12, in the Town of Boulder between Anasazi State Park and the businesses on the opposite side of SR-12, and on SR-63. between Ruby's Inn and the businesses and attractions on the opposite side of the road. Section 6.2 "Construction Solutions" suggests working with Ruby's Inn and Bryce Canyon to address the problem on SR-63, and it suggests working with the Town of Boulder and Anasazi State Park for the pedestrian traffic there.

There are two airports located along the SR-12 corridor. The Bryce Canyon Airport is located near the junction of SR-12 and SR-63, and the Escalante Airport is located two miles southeast of Escalante along SR-12.

The Bryce Canyon Airport is classified by the Federal Aviation Administration (FAA) as a small commercial service airport. Commercial service airports are publicly owned, enplane 2,500 or more passengers annually, and receive scheduled service (or charter service). An enplaned passenger is anyone purchasing a ticket on a scheduled carrier. Most passengers to the Bryce Canyon Airport are foreign, originating from Europe or Asia. Most scheduled air carrier flights to the Bryce Canyon Airport originate from Page, AZ, or Las Vegas, NV.

In the year 2000 there were eight aircraft based at the Bryce Canyon Airport. Also, for the year 2000 there were approximately 6,600 aircraft operations. The Bryce Canyon Airport is sponsored by Garfield County. The following projects have been identified within the Five-Year Airport Capital Improvement Program (ACIP):

- 2002 -Seal Coat and Re-Strip Runway.
- 2003 -Construct Partial Parallel Taxiway (approximately 2,800').
- 2004 -Prepare Environmental Assessment (EA) to widen Runway from 75' to 100'.
-Upgrade Safety Areas to C-II Standards.
- 2005 -Widen Runway to 100'.
- 2006 -Expand Commercial Service Apron.
-Expand General Aviation Apron.

The Escalante Airport is classified by the FAA as a general aviation airport. There were no aircraft based at the Escalante Airport in the year 2000. Also, for the year 2000 there were approximately 1,900 aircraft operations. The Escalante Airport is sponsored by Escalante City. The following projects are identified within the Five-Year Airport Capital Improvement Program (ACIP):

- 2002 -Land Acquisition for airport improvements.
- 2003 -Re-Construct & Widen Runway from 60' to 75'.
- 2004 -Grade Runway 12/30 Safety Areas.
-Construct Taxiway Turnaround on Runway Ends.
- 2005 -Redesign & Re-Construct Apron.

2006 -Replace Runway/Taxiway Lighting.

2006 -Install Precision Approach Path Indicator (PAPI) & Runway End Identification Lights (REIL).

There are no airports along SR-63. The closest airport is the Bryce Canyon Airport, located near the junction of SR-63 and SR-12.

This report does not provide an evaluation of aviation needs.

There are no current and no known planned rail facilities along the SR-12 and SR-63 corridors.

5.0 Public Involvement

Input has been sought from the public, business, communities, counties, and other public agencies that are stakeholders along the corridors. The success of this planning effort and the future successes of proposed actions are dependent upon the success of being in tune and working cooperatively with stakeholders.

The needs of many proposed solutions require participation from stakeholders. The processes and dialogues that have been a part of the corridor study planning effort need to be continued. The result is expected to be improved efficiency in the expenditure of resources and efforts for projects that better meet the needs in the corridor.



Figure 15 Traveling the Hogsback
Photo by Allysia Angus

5.1 History of Public Involvement

Public involvement is summarized in Table 5-1.

Table 5-1 Public Involvement and Work Groups

Date	Location	Description
06 Jun 2000	N.A.	Letter sent to Public Agencies and Local Governments seeking participation in the SR-12 planning process.
05 July 200	N.A.	Letter sent to participating public entities informing of 02 Aug planning meeting
02 Aug 2000	Escalante Town Hall	Public Agencies met to plan for the SR-12 Corridor Transportation Study. Represented were GSENM, Capitol Reef NP, Bryce Canyon NP, Town of Boulder, Town of Escalante, Garfield County Travel Council, Dixie Nat'l. Forest, Utah Travel Council, Boulder Planning Commission, UDOT, Utah Parks and Recreation, FHWA, Wayne County Travel Council, and Garfield County.
11 Oct 2000	USFS, Panguitch	Planning for public open house meetings.
25 Oct 2000	UDOT, Richfield	GSENM/UDOT meeting to outline goals for a MOU to work together on the SR-12 Corridor. Planned for field review on 16 Nov 2000.
02 Nov 2000	Escalante Town Hall	Public Open House seeking input from all public and private stakeholders.

Table 5-1 continued, Public Involvement and Work Groups

Date	Location	Description
02 Nov 2000	Cannonville Town Hall	Public Open House seeking input from all public and private stakeholders.
09 Nov 2000	Boulder Town Hall	Public Open House seeking input from all public and private stakeholders.
09 Nov 2000	Bicknell Town Hall	Public Open House seeking input from all public and private stakeholders.
16 Nov 2000	GSENM: Henrieville to Boulder	GSENM/UDOT field review of issues along SR-12.
24 Jan 2001	Jct. SR-12/89 to SR-63	Work Group Meeting for field review of corridor from the Junction of SR-12 and SR-89 to the Junction of SR-12 and SR-63.
27 Feb 2001	Ruby's Inn	Originally planned for a SR-12 Communication and Interpretive Plan meeting. Changed to an informational meeting about obtaining National Scenic Byway or All American Highway status for SR-12. The USFS took the lead role in organizing the meeting.
26 Apr 2001	Boulder to Torrey	Work Group Meeting for field review of corridor from Boulder to Torrey.
27 Jun 2001	Jct. SR-12/89 to Boulder	Work Group Meeting for field review of corridor through GSENM.
09 Oct 2001	Bryce Canyon	Work Group Meeting for field review of SR-12 and SR-63 corridor in the vicinity of Bryce Canyon National Park.
09 Oct 2001	Cannonville	Kodachrome State Park/UDOT meeting to discuss maintenance difficulties of the road to Kodachrome Park, and the possibilities of making the road a state road.

5.2 Summary of Public Comment

Comments from public open houses are summarized in Appendix "I". Comments were received following public open houses held in Escalante, Cannonville, Boulder, and Bicknell in November 2000. The comments were received verbally, through the mail, by E-mail, or by notes on maps provided at the meetings.

The public comments were used in subsequent field work group meetings to evaluate the needs and potential solutions for the corridors. Work group meeting notes are found in Appendix "J".

6.0 SR-12 & SR-63 SOLUTIONS

Solutions developed from public input and work group evaluations are presented below as “Nonconstruction Solutions” and “Construction Solutions”. The solutions are proposed. Making them realities will depend upon funding availability and comparisons with other needs throughout the state.

6.1 NONCONSTRUCTION SOLUTIONS

Table 6-1 summarizes nonconstruction solutions and the suggested time period for implementation. Further explanations follow the table. These narratives are generally categorized by the predominant landowner.

TABLE 6-1 Nonconstruction Solutions

Suggested Time Period	Priority and Description
1 - 2 Years	Very High - Develop Agreements with the USFS and UDOT
1 - 2 Years	Very High - Develop Agreements with the GSENM and UDOT
1 - 2 Years	Very High - Develop agreements with Bryce Canyon National Park and UDOT
1 - 3 Years	High - Additional Highway Patrolman Stationed in Escalante

The agreements with the federal land agencies will not only be helpful, but the right-of-way (ROW) or limits of operation agreements, and obtaining material borrow sites will be essential to meeting fundamental transportation needs.

6.1.A Develop Agreements between the USFS and UDOT

Agreements need to be developed with the Powell, Escalante, and Teasdale Ranger Districts of the Dixie National Forest Service (USFS) to address the issues of highway maintenance operations, material borrow sites, staging areas, ROW, and bicycle use as described below.

Portions of SR-12 over Boulder Mountain do not have a designated ROW. Maintenance work for these areas is currently limited to the disturbed area. Either a consistent width, defined ROW is needed, or an operations agreement or other means is needed to provide for highway maintenance.

Turnouts were constructed over Boulder Mtn. as part of the original federal construction project, but the turnouts are outside of the UDOT limits of operation. The USFS would like UDOT to maintain them, but UDOT does not have ROW for work in these areas, or the authority to modify them for easier maintenance.

Some tree removal outside of the ROW is essential for maintaining safe sight distances. A simple process for making this determination and for removing the trees (and in some cases embankment removal) needs to be defined. (Note: Discussions are currently in progress between UDOT/Escalante Maintenance and the USFS/Teasdale Ranger District about removals at the junction with the Lower Bowns Reservoir Road.)

The USFS would like rip rap to be placed at the outlets of culverts that cross the road and other erosion control work to be performed, but these work areas are often outside of the UDOT limits of operation.

Material borrow sites of proper material quality and quantity are essential for continued highway maintenance operations. Proper closing of sites the USFS would like closed, and authorized locations for new sites need to be agreed upon to meet the needs of both the USFS and UDOT.

Cooperative efforts are needed to encourage bicyclists to use existing and future separated bike paths, and to use more compatible road segments - such as those having 4-ft or wider shoulders. Bicycle use should be discouraged and proper warnings should be provided for road sections that are not compatible with bicycle use. The USFS and UDOT, in conjunction with other partnering agencies, need to investigate what restrictions on bicycle use could be applied to provide for reasonable safety. Continued work with the USFS is needed to define bicycle compatible road segments, to develop regulations for bicycle use, to develop volunteer rules of the road, and to disseminate information about proper bicycle use. The potential need for legislative action to better regulate bicycles has been expressed.

6.1.B Develop Agreements between the GSENM and UDOT

Grand Staircase-Escalante National Monument (GSENM) and UDOT agreements need to be reached to define a consistent and adequate ROW. From Head of the Rocks to the USFS boundary at New Home Bench (south of the Town of Boulder), the ROW is not defined and UDOT is working to the limits of disturbance, which can be difficult to delineate and is sometimes inadequate for roadway needs. Besides the ROW



Figure 16 Cut with bad sight distance, near Boynton Overlook, shows some of the hazards of mixing slow and fast moving traffic. Photo by Anne Ogden

issues, agreements need to be reached regarding operations allowed outside of the ROW. This work will primarily be drainage control activities for protecting the road and preserving natural drainage courses. Specific work sites and types of work were reviewed by GSENM and UDOT in the field on 16 November 2000. A summary of this meeting is included in Appendix "J " Work Group Meetings".

Material borrow sites of proper material quality and quantity are essential for highway maintenance operations. UDOT Maintenance seeks to match the borrow material color with the earth color at the site of use. The ability to maintain this aesthetic benefit should be continued. Agreements need to be reached between GSENM and UDOT for satisfactory reclamation of sites the Monument would like to discontinue and for establishing authorized locations for new sites.



Figure 17 View from "Head of the Rocks" shows the difficulties of passing and the narrow shoulder widths that create problems for the mix of slow and fast moving traffic. Photo by Anne Ogden

Locations where turnout developments are desired have been determined as part of this planning process. Continued cooperative work between GSENM and UDOT is needed to plan the details of these developments and to establish how costs may be shared.

Cooperative efforts between GSENM, UDOT, and the other partnering public agencies are needed to address bicycle use as explained in the last paragraph of Section 6.1.A.

6.1.C Develop Agreements between Bryce Canyon National Park and UDOT

UDOT does not have a ROW for the portion of SR-12 through Bryce Canyon National Park. When efforts were originally made to pave the road through the park, federal money was available for road work in the park, but monies could not be expended on state land. The state road within the Park boundaries was deeded over to the Park and paved, with the agreement that the State would maintain it.

UDOT currently operates within the limits of disturbance. Agreements need to be developed between the Park and UDOT regarding what maintenance activities can take place within the Park. UDOT/Escalante Maintenance and Bryce Canyon Maintenance are currently working on developing this agreement.

Appendix "H" includes copies of the 1959 Memorandum of Understanding between the State Road Commission of Utah and the National Park Service, and of the 1960 quitclaim deed from the State Road Commission of Utah to the National Parks Service, Department of the Interior.

If road widening is required to maintain adequate road functions, it appears this could be performed within the agreement to maintain the road, if the Park is supportive of the project. Widening is needed to construct passing lanes on SR-12 on the uphill west bound lane of the "Dump", as related in Section 6.2 "Construction Solutions".

Cooperative efforts between Bryce Canyon National Park, UDOT, and the other partnering public agencies are needed to address bicycle use as explained in Section 6.1.A.

6.1.D New Highway Patrolman Stationed in Escalante

In the public meetings there was considerable discussion about increasing and incompatible road use by bicycles, RVs, buses, cars, and trucks on the narrow, steep, winding road sections. Recognizing the difficulties of expanding highway capacity, alternatives were discussed.

A highway patrolman is stationed in Loa and another one in Panguitch. A suggestion obtained from the public meetings to station a patrolman in Escalante is a recommended by this report for further evaluation.

It is believed that another patrolman could improve safety and help traffic flow. The intent is for the officer to monitor the road to see that bicycles and RVs mesh with other vehicles, and to encourage slower vehicles to allow others to have reasonable opportunities for passing. This could be an economical method for meeting increasing transportation demands with difficult road conditions.

6.2 CONSTRUCTION SOLUTIONS

Construction solutions are summarized in Tables 6-2, 6-3, and 6-4. The tables are organized according to the suggested time period for implementation, 1-5 years, 5-10 years, and 10-20 years. The projects in the tables are listed in ascending order by reference posts (RP), except that some projects of the same type may be listed together.

Conditions corrected by the solutions are listed and general priorities are given as VERY HIGH, HIGH, MODERATELY HIGH, and MEDIUM. This four tiered rating system is somewhat general, but it is used to present results to a degree of accuracy consistent with the accuracy of the input data. The priority of projects will change over time as conditions change, or as more accurate input is obtained. It will be necessary to periodically review and update the evaluations obtained by this study.

Increasing traffic demands require increasing the ability for traffic to flow more safely and efficiently. This can most readily be accomplished in the near future by constructing passing lanes and turnouts at locations that have been identified along the route.

Passing lanes will help the mixed traffic of slow and fast moving vehicles keep moving. They will also reduce existing problems of vehicles passing in no-passing zones.

Turnout locations have been identified in cooperation with federal land agencies and other partners. The turnouts will often serve dual purposes of providing interpretive sites for the federal land agencies and for easing traffic congestion. They provide safe sites for travelers to leave the traveled roadway for improved sightseeing, photo opportunities, and to obtain additional information about the region. Turnouts will allow slow moving vehicles to pull over, permitting trailing vehicles to pass. They will reduce unauthorized turnouts with pavement edge break off, landscape disturbances, and hazards from uncontrolled highway exiting and entering. Proper signing needs to be installed to notify travelers of approaching turnouts and to encourage their use.

Longer range solutions include road widenings and the flattening of shoulders to provide improved clear zone along the highway edges.

Additional narrative regarding the proposed solutions follows the summaries given below in Tables 6-2, 6-3, and 6-4.

**TABLE 6-2 CONSTRUCTION SOLUTIONS
1 - 5 YEAR IMPLEMENTATION**

Reference Post	Description	Priority and Conditions Corrected
At information turnouts all along the route	Provide information signing for bicycles that include voluntary rules of the road. Work towards establishing mandatory rules.	VERY HIGH , Present bicycle use is not compatible with road conditions and other vehicle use.
0.11	Sevier River Bridge replacement. This project is programmed for construction in 2002. Bridge originally constructed in 1941	VERY HIGH , Unsafe and narrow bridge. Federal Highways Administration (FHWA) Structure Sufficiency Rating of 49.1/100.
SR-63 RP 2.65 and SR-12 RP 13.7	Install oversize "STOP" and "STOP AHEAD" signs at the junction of SR-12 and SR-63, maybe with flashing lights (for traffic approaching from SR-63). This would be a temporary aid until an interchange could be constructed as noted in the 5-10 year solutions.	VERY HIGH , Drivers unfamiliar with the intersection are approaching from Bryce Canyon Park to the south, they see the County road to Johns Valley opposite the intersection and are running the existing stop sign.
14.8 -16.3, 17.5 and 17.8, and 16.3 - 20.9	Construct a passing lane up the length of the "Dump" (west of Tropic climbing the mountainside to the top of the plateau) exclusive of the short existing passing lane. Provide for clear zone improvements along the shoulders. Construct box culvert widenings at RP 17.5 and 17.8. Widen shoulders to 4' - 6' (from the existing 1' to 2' shoulders) to the NW limits of the Town of Tropic. Flatten the vertical curve at RP 20.0.	VERY HIGH , Heavy traffic in this area has restricted movement due to slow moving vehicles up the 9-10% grades and the siteseeing attractions. This project would improve motor vehicle traffic flow and it would help provide for bicycle use to be focused in the Tropic to Red Canyon and Bryce Canyon area. Important improvements will also be made to clear zone and sight distance.
26.0	Paria Bridge Widening and Improvements. Bridge originally constructed in 1957.	HIGH , FHWA Structure Sufficiency Rating of 49.2/100 and narrow bridge.
37.5	Widening and Improvements to Henrieville Creek Bridge at Smith's Crossing. Bridge originally constructed in 1955.	HIGH , FHWA Structure Sufficiency Rating of 45.3/100 and narrow bridge.

TABLE 6-2 continued
1 - 5 YEAR IMPLEMENTATION

Reference Post	Description	Priority and Conditions Corrected
29.5 - 33.0	Investigate the source of the problems and if	HIGH , Rideability would be improved and
37.5 - 41.5	Realignment of road through the Blues, reconstruction of existing turnouts at 41.0 and the Lower Blues turnout.	VERY HIGH , Sharp turns, narrow road, and grades to 15% make this one of the highest hazard areas on the route. Additionally, road characteristics impede traffic flow.
59.0	Construct turning lanes to the Escalante Interagency Visitor's Center, which is expanding in 2003.	HIGH , traffic turning into the visitor's center or into the equipment yard on the opposite side of the highway needs to exit from the travel lanes.
59.2 - 60.6	Restripe Escalante Main Street	High , safer and slower traffic flow could be provided by creating a center turn lane and one travel lane each direction. Perform with next resurfacing project.
61.5	In cooperation with the Escalante Center and the Last Wagon Museum, construct a rest area east of the Town of Escalante.	HIGH , A rest area is needed with extended hours and with the ability to serve large groups including tour buses. Further evaluation is needed to look at the Escalante Center or the Boulder area.
70.0 to 80.0	Head of the Rocks to the south end of the Hogsback: road widening, flatten vertical curves, realignment at sharp turns, and correct the insufficient asphalt sections of 2"-5".	VERY HIGH , Sharp turns, steep grades, and narrow roads make this a high hazard area with slow traffic flow.
86.9 to 87.6	In conjunction with the Town of Boulder and Anasazi State Park construct a sidewalk and other main street improvements to slow traffic.	HIGH , Pedestrian/Vehicle conflicts and fast moving traffic that views Boulder Main Street as part of the open highway that exists on each end of town.

**TABLE 6-2 continued
1 - 5 YEAR IMPLEMENTATION**

Reference Post	Description	Priority and Conditions Corrected
52.0, 64.8, 69.4, 69.9, 78.8, 79.2, 80.3, 84.0, 85.1	In conjunction with GSENM construct turnout improvements at these locations, and turning lanes at 69.4. Provide accompanying signing.	VERY HIGH , Turnouts improve traffic flow by providing a place for slow moving vehicles to pull over to allow passing, and by allowing sight seers to completely leave the roadway, they also help to prevent unauthorized turnouts with pavement edge breakoff and landscape disturbances.
98.1, 98.8, 100.3, 101.5	In conjunction with the USFS construct turnout improvements at 98.1, 98.8, 100.3, and 101.5 .	VERY HIGH , Conditions corrected by the turnouts are the same as listed above for the turnouts through GSENM.
106.5, 106.9 and 106.8	At Lower Bowns Road junction and the two nearby campground road junctions construct turning lanes.	VERY HIGH , Poor sight distances make this a high hazard area. The turning lanes will provide safer highway entering and exiting, and highway traffic will not be slowed or stopped by a vehicle waiting to make a turn.
107.3	In conjunction with the USFS pave the turnout and access to the Wildcat Visitors Center and rest area.	HIGH , The USFS rest area provides an important service to road users. It can serve as a site for providing bicycle travel information.
118.5, 122.3, and 122.8	Correct superelevation on curve at 118.5. At 122.3 and 122.8 the two sharp curves need straightening. New ROW will be needed.	VERY HIGH , The safety hazards will be improved and traveling speeds will be able to be increased through the present 25mph and 30 mph curves.

**TABLE 6-3 CONSTRUCTION SOLUTIONS
5 - 10 YEAR IMPLEMENTATION**

Reference Post	Description	Priority and Conditions Corrected
0.12 - 7.1	Install box culvert to replace pipe at 5.8, extend box culverts, and highway drainage pipe extensions in Red Canyon. Stabilize flood channels to prevent erosion of roadway. Flatten shoulders or provide other means to improve clear zone safety.	HIGH , Inadequate clear zone, and plugging of present drainage pipe by storm flows.
0.12 - 2.5	Correct subgrade settlement problems	HIGH , Rideability and maintenance costs.
5.3 - 7.3	Construct passing lane at upper end of Red Canyon	HIGH , Heavy E.B. traffic in this area is restricted in movement due to slow moving vehicles up the 9% grades and the canyon's scenic attractions.
7.6 - 13.7, and SR-63 0.0 - 2.65	In conjunction with the USFS, Bryce Canyon National Park, and Garfield County extend the Red Canyon bicycle trail to the Bryce Canyon Park entrance.	HIGH , This will open a major bicycle route with bicycles separated from other vehicle traffic. Bryce Canyon Park is making bicycle accommodations on their roads, and eventually the trail may be extended from Red Canyon north to Panguitch.
SR-12 RP 13.7 and SR-63 RP 2.65	Construct a multilevel interchange at the junction of SR-12 and SR-63 to accommodate traffic in a safer manner	HIGH , Problems exist with accidents and confusion about how to travel through this intersection.
SR-63 RP 1.3	In conjunction with Ruby's Inn and Bryce Canyon National Park construct a SR-63 pedestrian crossing in front of the Inn.	MODERATELY HIGH , Safety problems occur with pedestrians utilizing businesses on both sides of the highway.

TABLE 6-3, continued
5 - 10 YEAR IMPLEMENTATION

Reference Post	Description	Priority and Conditions Corrected
20.9 - 21.6	In conjunction with the Town of Tropic construct center turning lanes, storm drainage system, widen the box culvert at 21.4, and flatten the vertical curve at 21.6	HIGH , The wide shoulder in Town is confused for being a travel lane. Turning lanes would provide for better and safer traffic flow. Storm drainage is needed to properly handle runoff. The box culvert widening will improve the clear zone, and the vertical curve flattening will provide safer sight distance. Tropic presently has an engineer working on some of these issues.
27.0 and 27.9	Flatten vertical road curvature. Existing grades are approximately 20% and 11%.	HIGH , Sight distances will be improved and stopping distance safety benefits will be obtained from reduced grades.
24.0 and 27.5	Widen Box Culverts	HIGH , Clear zone improvements.
100	Steep Creek curve and steep grade improvements	HIGH , The 9% grades will be reduced, and improvements will be made to the hazards and traffic flow impediments of the sharp curve.
119.0	Construct turning lane for junction with road to Teasdale	MODERATELY HIGH , Safety will be improved for traffic entering and leaving SR-12.

TABLE 6-4
10 - 20 YEAR IMPLEMENTATION

Reference Post	Description	Priority and Conditions Corrected
7.3 - 14.7	Top of Red Canyon to Top of the "Dump" above Tropic: widen the 2' to 4' shoulder to 6'.	MEDIUM , This is a straight section of road with good visibility and good clear zone. If the Red Canyon Bike Trail is extended as a separate trail to Bryce Canyon Park, this would relieve some of the need for wider shoulders. If wider shoulders are constructed as an alternative to constructing a separate bike trail, then the shoulder widening would become a "High" priority with a 5-10 Year recommended implementation (replacing the separate bike trail project listed in Table 6-3.
21.5 - 25.7	Widen the 1' to 2' shoulders to 6' from Tropic to Cannonville	MODERATELY HIGH , Inadequate shoulders exist, in places a paved shoulder does not exist beyond the edge line.
25.9 - 29.5	Widen the 1' to 4' shoulder to 6' from Cannonville to Henrieville. Replace the bridge over the Paria River at RP 26.	MODERATELY HIGH , Inadequate shoulders exist, in places a paved shoulder does not exist beyond the edge line. The Paria River bridge is narrow and the angle of the river flow underneath the bridge is undercutting the stream bank adjacent to the Town of Cannonville.
29.0	Widen the Dry Wash bridge at Henrieville Bridge originally constructed in 1952.	MODERATELY HIGH , FHWA Structure Sufficiency Rating 62.0/100. Widening and structural improvements.
33.0 - 37.5	Widen the 2.5' shoulder to 6' from east of Henrieville to the base of the "Blues".	MODERATELY HIGH , Inadequate shoulders exist, in places a paved shoulder does not exist beyond the edge line.

TABLE 6-4, Continued
10 - 20 YEAR IMPLEMENTATION

Reference Post	Description	Priority and Conditions Corrected
41.5 - 59.2	Widen the 1' to 2' shoulders to 6' from the "Blues" to Escalante.	Moderately High , Inadequate shoulders exist, in places a paved shoulder does not exist beyond the edge line.
60.2 - 70.0	Widen the 1' shoulders to 6' from Escalante to Head of the Rocks.	Moderately High , Inadequate shoulders exist, in places a paved shoulder does not exist beyond the edge line.
80.0 - 88.0	Widen the 1' to 4' shoulders to 6' from New Home Bench to Anasazi State Park	Moderately High , Inadequate shoulders exist, in places a paved shoulder does not exist beyond the edge line.
88.0 - 99.0	Widen the 1' shoulders to 6' from Anasazi to the Homestead turnout	Moderately High , Inadequate shoulders exist, in places a paved shoulder does not exist beyond the edge line.
99.0 - 112.0	Widen the 1' shoulder to 6' from the Homestead turnout to the USFS Singletree Campground turnout.	Moderately High , Inadequate shoulders exist, in places a paved shoulder does not exist beyond the edge line.
0112.0 - 123.67	Widen the 1' to 4' shoulder to 6' from the Singletree Campground to the junction with SR-24 at Torrey.	Moderately High , Inadequate shoulders exist, in places a paved shoulder does not exist beyond the edge line.
SR-63 0.0 - 2.65	Widen 1 - 3' shoulder to 6'	Moderately High , Inadequate shoulders widening would improve bicycle use. If this project was performed as part of a larger bicycle access improvement it would become a "High" priority to be performed in 5-10 years.

The project narrative below is organized to discuss the recommendations in the above tables according to the areas identified by the predominant land owner or local municipality.

6.2.A Projects in the Vicinity of USFS Lands and Bryce Canyon National Park

In the upper end of Red Canyon a passing lane east-bound is needed. The high traffic and mixed vehicle use in this area results in passing difficulty and illegal passing as drivers become impatient. High traffic volumes are occurring through longer periods of the year. The off-season use is attracting international visitors, senior citizens, and others in the autumn in numbers that can match summer visitation. This project is listed in the suggested 5-10 year implementation, but it should be considered for closer to the 5 year time period.

In Red Canyon the following drainage work is needed:

- RP 2.5, extend the box culvert
- R.P. 5.8, install a box culvert to replace the pipe that plugs and overflows -
- R.P. 6.3, extend the box culvert carrying flows from Corral Hollow
- Install erosion protection along the Red Canyon flood channel to prevent erosion of the highway foundation (some of this work was accomplished by the 2001 USFS bike trail construction project).

Shoulder flattening or some other means of improving clear zone safety is needed throughout Red Canyon to improve clear zone safety.

In cooperation with the USFS, Bryce Canyon National Park, and Garfield County, the Red Canyon Bike Trail should be extended to Bryce Canyon National Park. Bryce Canyon National Park is widening their roads and is providing for bicycle lanes. Connecting the Red Canyon Trail to the Park needs to be performed in conjunction with a program to encourage bicyclist to use road segments compatible with their use, and to avoid road segments where bicycle use presents safety problems. If this construction work can be accomplished simultaneous with a program that will focus the SR-12 bicycle use to this area, then it should be given a "High" priority with about a 5-year implementation period. If this work only attracts more bicycles to areas that are not compatible with their use, then it would be counterproductive to do this work.

An excellent alternative to a separate bike trail is to widen the highway shoulders to 6' from the top of Red Canyon to the top of the "Dump" above Tropic, and for the 2.65 mile length of SR-63. This work in combination with a passing lane and wide shoulders over the length of the "Dump" would open up a large section of road for safer bicycle use. Whether this alternative or the separate bike trail is pursued, either project should be accomplished simultaneously with a program to encourage bicycle use to primarily be in the Red Canyon to Tropic segment of the SR-12 corridor, as this segment is made bicycle compatible. As other segments of the

corridor can be made more suitable for bicycles, then the program could expand the area where bicycles are more compatible with other traffic.

The “Scenic Byway 12, Corridor Management Plan” identifies the extension of the Red Canyon bicycle trail to Bryce Canyon as a proposed action for developing recreational resources.

Immediate efforts should be made to provide information signing for bicycles that would include voluntary rules of the road. Work should also proceed towards mandatory bicycle rules that would apply to the safe use of bicycles with other vehicles on the highway. This should be accomplished in cooperation with the federal land management agencies, counties, and municipalities. Partners in the effort could assist in the dissemination of information through their visitor information displays and services.

On SR-63 at the junction with SR-12 oversized “STOP” and “STOP AHEAD” signs, possibly with flashing lights, are needed, or some other means might be used to more clearly denote the junction. Some of the cars approaching this junction from Bryce Canyon see the county road to Johns Valley (marked as Hwy 22) extending ahead and continue across the junction without stopping.

The safety of pedestrian traffic in front of Ruby’s Inn needs to be addressed. UDOT, Ruby’s Inn, and Bryce Canyon National Park should work together to find solutions for safely accommodating pedestrians.

Up the steeper part of the west bound “Dump” section of SR-12 above the Town of Tropic (RP 14.8 - 16.3) the existing passing lane needs to be extended. Other needs that could logically be included in this project are widening the shoulders from RP14.8 to 20.9 (NW Town of Tropic limits is RP 20.9), and flattening the vertical curve at RP 20.0 to improve sight distance. These are “Very High” priority projects. Passing is occurring in no-passing zones, as slow vehicles move up the long steep grade.



Figure 18 Intersection of Lower Bown’s Reservoir Road and SR-12. Photo by Anne Ogden

Over the Boulder Mountain portion of SR-12, turnouts need to be developed by working together with the USFS. The turnouts will help traffic flow, and they will provide room for vehicles to safely pull off the road outside of the clear zone. The USFS will use the turnouts for interpretive areas. Signing is needed to indicate turnout locations, to encourage slow moving vehicles to pull over, and to let people know there will be an opportunity to stop ahead so they will not stop along the road. Turnout locations needing improvement include the Frisky Creek turnout at RP 98.1, the Homestead turnout at 98.8, the Steep Creek at 100.3, and the Roundup Flat turnout at 101.5.

Turning lanes are needed at the Lower Bowns Reservoir Road intersection, RP 106.5 - 106.9, to serve this junction with dangerous visibility problems and to serve the two nearby campground entrances. The winding road with short sight distances and traffic slowing or stopping to prepare for making a turn make this a high hazard area.

At the USFS Wildcat Visitor's Center on Boulder Mountain, the USFS and UDOT might work together to pave the turnout, access road, and parking area. UDOT is using a borrow pit near this site that the USFS would like to close. An agreement for the closure needs to be reached in conjunction with finding and approving a replacement materials site.

During the next 10-20 years shoulder widening SR-12 from the Town of Boulder over Boulder Mountain to Torrey (RP 88 to 124) would make this segment more bicycle compatible and provide safety benefits for motor vehicles. The existing shoulders are generally around 1-ft. These are recommended for widening to 6-ft. Table 6-4 outlines road segments that might be used for phasing this work.

6.2.B Projects Within the Town of Tropic

The Town of Tropic has some pressing needs for the portion of SR-12 serving as its main street. The Town has an engineer working on solutions and UDOT's help will be needed. Traffic flow, business access, and storm drainage need to be addressed. These items are listed in Table 6-3 as "High" priority for 5-10 year implementation. Planning work should be pursued with goals of construction in about 5 years.

The existing wide shoulder is being confused for a travel lane, but the shoulder tapers to nothing at each end of town. A center turning lane might effectively use the wide road through the town, or some other means should be developed to clarify desired traffic flow.

Limited access should be considered to the businesses to reduce hazards of vehicles entering and leaving the highway at multiple points.

A storm drain system is needed to handle storm flows, and at RP 21.4 the box culvert needs to be widened for clear zone improvement.

6.2.C Projects Within and Adjacent to the Town of Escalante

Traffic speed could be reduced by restriping the 4 lane main street to 2 travel lanes and a center turn lane. This could be accomplished with the next resurfacing project in the town. The town favors this alternative and the 2 travel lanes would accommodate the traffic volume.

Immediately west of Escalante the Escalante, Interagency Visitor's Center (GSENM, USFS, and National Park Service) is scheduled for construction in 2003 at the site of the present interagency visitor's center. Turning lanes are needed to accommodate traffic turning into the center and into the equipment yard located across the highway from the visitor's center.

On the east side of Escalante there is the possibility of constructing a rest area in conjunction with the Escalante Center and Last Wagon Museum. The Center is a local initiative project being planned east of the High School. The development will serve visitors and students by providing experiences and insights into science, history, and the arts. This learning center, visitor center, and museum has proposed partners consisting of Garfield School District and Escalante High School, Southern Utah State University, Last Wagon Museum, Escalante Canyons Center for Arts and Humanities, Town of Escalante, and Utah Travel Council.

The Escalante Center has requested UDOT partnership in the building and parking lot with plans for the development to jointly serve as a rest area. The intent is to provide a rest area and parking lot large enough to accommodate large groups including tour buses, and to provide a rest area with a high degree of availability, possibly for 7 day per week and 24 hours a day.

The State Transportation Improvement Program (STIP) lists a rest area in Boulder in concept development. This rest area has also been considered for placement in Torrey, when a possible interagency visitors center was being considered there. That interagency visitors center is no longer an active proposal. A partnership with the Escalante Center to provide a rest area, or locating a rest area in Boulder needs further investigation.

6.2.D Projects Within the Town of Boulder

The Town of Boulder, Anasazi State Park, and UDOT need to work together to safely provide for pedestrian traffic, and to slow vehicles down within the town. There is considerable pedestrian traffic crossing the road or walking along the highway between Anasazi State Park (the Park is located within the Town of Boulder) and businesses. Improvements would likely include the development of

sidewalks for pedestrians, and the development of a visual appearance that would help vehicle drivers know this is the town's main street, rather than a continuation of open highway.

See the discussion above in Section 6.2.C regarding a possible rest area in Boulder or near Escalante.

6.2.E Projects Within GSENM and Adjoining Private Lands

Relatively small, but steep hills at RP 27.0 and 27.9 (Tropic to Henrieville) limit sight distance and create hazards when the road is slick. The approximately 20% and 11% respective grades need to be flattened. In this same area at RPs 24.0 and 27.5 the narrow box culverts need extending to improve the clear zone.



Figure 19The “Blues”: steep grades, sharp turns and poor sight distances. Photo by Anne Ogden

Through the Henrieville Dips, RP 29.5 to 33.0, the road grade experiences continual settlement. Annual asphalt overlays are applied to level up the road surface. The asphalt section is estimated to have up to 2-feet thickness from the overlays, but this is not solving the settling problem. A subgrade investigation is needed and solutions developed for stabilizing the grade. Any substantial construction work should include road widening.

In the “Blues” area, RP 37.5 to 41.5, the road needs either realignment and widening, or another improvement alternative should be developed. Steep grades up to 15% exist. There are sharp curves with low sight distances, and the narrow road with a 30 mph speed limit obstructs traffic flow. This is one of the high hazard areas in the corridor. A realignment will need to consider the existing GSENM view turnout and rest area at the top of the “Blues” and the new turnout identified at the bottom of the “Blues” The new roadway section should include an uphill passing lane. Any new ROW will need to be obtained from the GSENM. This project is on the UDOT's Region 4 State Transportation Improvement Project (STIP) list in the concept development phase.

In cooperation with the GSENM, plans need to be made for improvements to existing turnouts or to construct new turnouts at the following locations:

1. Approximately RP 39 at the base of the "Blues" area the existing unpaved turnout needs improvements that would include a parking lot large enough to accommodate 2 tour buses;
2. RP 52.0, the existing Upper Valley Granaries pullout, or possibly shift this turnout 3 miles to the east and build a new turnout near the Main Canyon road turnoff;
3. RP 64.8, the existing turnout at the Junction of SR-12 and the Hole-in-the-Rock road;
4. RP 69.4, a new turnout for the Cream Cellar Route site about 1/4 mile west of the Head-of-the-Rocks overlook - turning lanes will be needed in conjunction with this turnout to provide for vehicles entering and leaving the highway where short sight distance exists;
5. RP 69.9 the existing Head-of-the-Rocks overlook;
6. RP 78.8 a new turnout at the Lava Balls overlook site just south of the Hogsback on the east side of the road - part of the intent would be to draw traffic away from the unsafe lookout just up the road on the Hogsback - this turnout needs a parking lot. Some highway vertical and horizontal alignment changes would improve the sight distances;
7. RP 79 the existing south end of the Hogsback - safety issues need to be addressed and the GSENM visitor information panels may need to be removed to reduce vehicle flow to this area; removal of this turnout should be considered;
8. RP 81.0 the existing North end of the Hogback toward New Home Bench - turnout improvements and a parking lot are needed;
9. RP 84.0 junction of Hell's Backbone/Salt Gulch road;
10. RP 85.1 the existing turnout just below the top of the hill, on the east side of the highway, south of Boulder - develop a turnout and a parking area large enough to accommodate 2 buses - ROW will need to be obtained.

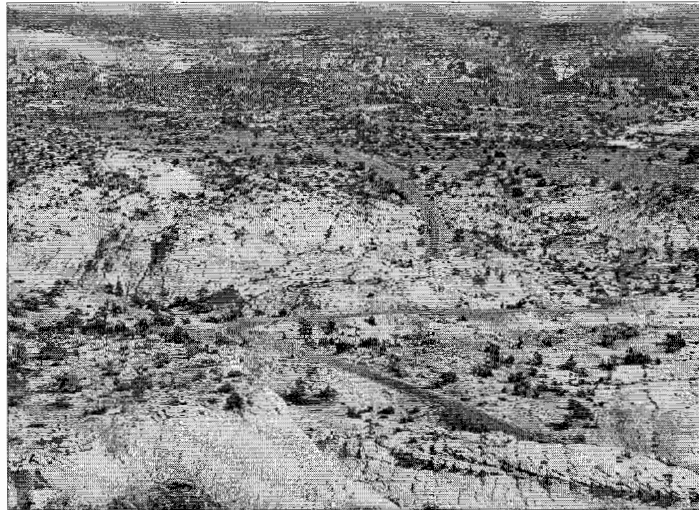


Figure 20 View from "Head of the Rocks" looking towards Calf Creek and the Escalante River. Photo by Anne Ogden

The "Scenic Byway 12, Corridor Management Plan" identifies the development of turnouts as a principal need in the corridor.

From the Head of the Rocks, RP 70 to the south end of the Hogsback, RP 80, the road needs reconstruction to correct thin asphalt sections and inadequate clear zones. Design exceptions will be needed as it will not be practical to provide flat shoulders through much of the route, but improvements should be pursued. Short sections of realignment are needed to straighten hazardous curves. The concrete barriers should be considered for replacement with more aesthetic barriers as requested in the "Scenic Byway12, Corridor Management Plan". The box culvert at Calf Creek (RP 75.1) has a FHWA Structures Sufficiency rating of 58.0/100; it needs to be replaced and widened. This reconstruction/realignment project is on the STIP in the concept development stage.

Bridge widenings and improvements are needed, as outlined in Tables 6-2 and 6-4, for the following bridges: the Paria River bridge at RP 26.0, the bridge at Henrieville, RP 29.0, and the Smith's Crossing bridge at RP 37.5. Only bridges with Federal Highways Administration (FHWA) structures sufficiency ratings less than 65 out of 100 are listed in Tables 6-2 and 6-4. Other bridges and structures replacements and widenings will be needed. A summary of the structure sufficiency ratings and the year built for all structures on SR-12 is included in Section 3.1.G, Table 3-17.



Figure 21 Sharp turn below "Head of the Rocks"
photo by Anne Ogden

For the remainder of SR-12 within GSENM, and adjoining lands, north to the Town of Boulder, roadway shoulders need widening to 6-ft during the next 20 years where possible. There will be some exceptions to this due to terrain limitations. A schedule of potential project segments is set forth in Table 6-4.

6.2.F Projects South of Torrey (SR-12 passes through BLM and private property in this area)

At the junction of the Teasdale road and SR-12, turning lanes are needed to provide for the safe entry and exit of vehicles.

There are three curves with substandard radii located between Grover and Torrey. Two of the curves are about one mile south of the junction of SR-12 and SR-24 near Torrey (RPs 122.30 and 122.8), and the other curve is just north of Grover (RP 118.5). These are 25 mph and 30 mph curves. The curve north of Grover also has

a reverse super elevation. SR-12 needs reconstruction and realignment through these areas. ROW will need to be obtained from private landowners or the BLM.

In the BLM land south of Torrey, UDOT does not have a designated ROW for SR-12, but operates within the limits of disturbance as allowed by RS 2477. Through the private land south of Torrey no designated ROW has been found. Adequate ROW needs to be clarified or obtained in these areas.

Bibliography

Bureau of Land Management, Grand Staircase-Escalante National Monument, *Grand Staircase-Escalante National Monument, Management Plan*, United States Department of the Interior, Bureau of Land Management 2000

LeFevre, Lenora Hall, edited by Woolsey, Nethella Griffin, *The Boulder Country and Its People*, pages 227-234, (information provided by Kathleen Truman)

Roundy, Jerry C. *"Advised Them to Call the Place Escalante"*, Springville, Utah: Art City Publishing, 2000

SR-12 Scenic Byway Website:

[http://www.byways.org/travel/byway.html?CX BYWAY=2020&CX STATE=UT](http://www.byways.org/travel/byway.html?CX%20BYWAY=2020&CX%20STATE=UT)

Utah Department of Transportation. *Boulder to Grover, Application for Public Lands Highway Funds*, Salt Lake City, Utah, 1977. From a copy printed for and loaned by Newton, Sammy N., Bicknell, UT

Utah Department of Transportation. *Traffic on Utah's Highways 2000*, Salt Lake City, Utah 2001. Available at <http://www.dot.utah.gov/progdev/traffic/trafbk00.pdf>

Woolsey, Nethella Griffin, *The Escalante Story* pages 187-194, (information provided by Kathleen Truman)

Appendix A

Definitions

Average Annual Daily Traffic (AADT): *The total number of vehicles which travel the highway (both directions) in one year, divided by 365.*

Level of Service (LOS): *A measure of road congestion that is influenced by factors including traffic volume, road geometry, and terrain. UDOT considers LOS C as the preferred level of service because it reflects the best balance between traffic volume and mobility. LOS D is the point at which speed drops due to traffic congestion and is considered to be the failure level of service. Definitions for each level of service are found in Appendix B.*

Planning Horizon: *The period of time between the publication of the report and 25 years later*

Section 4(f) Lands: Section 4(f) lands refers to Section 4(f) of the US Department of Transportation Act of 1966, originally set forth in Title 49, United States Code, Section 1653(f). It was amended in 1968. After the effective date, of the Federal-Aid Highway Act of 1968, the Secretary of Transportation shall not approve any program or project which requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, States, or local significance ... or any land from an historic site of national, State, or local significance ..., unless other reasonable alternatives are not available, and in that case mitigation measures must be implemented.

Section 6(f) Lands: This designation comes from the Land and Water Conservation Fund Act of 1965 (PL 88-578, 78 Stat 897, 16 USC 460d et seq.). Section 6(f) lands are a special category of lands that have been purchased and developed using federal funds from the Land and Water conservation Fund Act. Typically these lands are located in public parks and similar recreation type properties. They may be only a part of the park. See also <http://www4.law.cornell.edu/uscode/16/4601-4.html>

Traffic Mix: *The composition of the vehicle types. For example, 85% cars and 15% trucks. To calculate the actual number of a vehicle type, multiply the AADT and the percentage for that type.*

Appendix B

Level of Service

The concept of *levels of service* uses qualitative measures that characterize operating conditions within a traffic stream and their perception by motorists and passengers. The descriptions of individual levels of service characterize these conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. The following definitions give detail regarding individual levels of service.

Level of Service A represents the highest quality of traffic service because motorists are able to drive at their desired speed. Without strict enforcement, this highest quality would result in average speeds approaching 60 mph on two-lane highways. The passing frequency required to maintain these speeds has not reached a demanding level. Passing demand is well below capacity, and almost no platoons of three or more vehicles are observed. Drivers would be delayed no more than 30 percent of the time by slow-moving vehicles. A maximum flow rate of 420 pcph (passenger cars per hour), total in both directions, may be achieved under ideal conditions.

Level of Service B characterizes the region of traffic flow wherein speeds of 55 mph or slightly higher are expected on level terrain. Passing demand needed to maintain desired speeds becomes significant and approximately equals the passing capacity at the lower boundary of LOS B. Drivers are delayed up to 45 percent of the time, on average. Service flow rates of 750 pcph, total in both directions, can be achieved under ideal condition. Above this flow rate, the number of platoons forming in the traffic stream begins to increase dramatically.

Level of Service C is characterized by further increases in flow resulting in noticeable increases in platoon formation, platoon size, and frequency of passing impediment. Average speed still exceeds 52 mph on level terrain, even though unrestricted passing demand exceeds passing capacity. At higher volume levels, chaining of platoons and significant reductions in passing capacity begin to occur. While traffic flow is stable, it is becoming susceptible to congestion due to turning traffic and slow-moving vehicles. Percent time delays are up to 60 percent. A service flow rate of up to 1200 pcph, total in both directions, can be accommodated under ideal conditions.

Level of Service D occurs when unstable flow approached as traffic flow enters. The two opposing traffic streams essentially begin to operate separately at higher volumes, as passing becomes extremely difficult. Passing demand is very high, while passing capacity reaches zero. Mean platoon sizes of 5 to 10 vehicles are common, although speeds of 50 mph can still be maintained under ideal conditions. The fraction of no passing zones along the roadway section usually has little influence on passing. Turning vehicles and/or roadside distractions cause major shockwaves in the traffic stream. The percentage of time motorists are delayed approaches 75 percent. Maximum service flow rates of 1800

pcph, total in both directions, can be maintained under ideal conditions. This is the highest flow rate that can be maintained for any length of time over an extended section of level terrain without a high probability of breakdown.

Level of Service E is defined as traffic flow conditions on two-lane highways having a percent time delay of greater than 75 percent. Under ideal conditions, speeds will drop to below 50 mph. Average travel speeds on highways with less than ideal conditions will be slower, as low as 25 mph on sustained upgrades. Passing is virtually impossible and platooning becomes intense when slower vehicles or other interruptions are encountered. The highest volume attainable under LOS E defines the capacity of the highway. Under ideal conditions, capacity is 2800 pcph, total in both directions. For other conditions, capacity is lower. Operating conditions at capacity are unstable and difficult to predict. Traffic operations are seldom observed near capacity on rural highways, primarily because of lack of demand.

Level of Service F represents heavily congested flow with traffic demand exceeding capacity. Volumes are lower than capacity, and speeds are below capacity speed. LOS E is seldom attained over extended sections on level terrain as more than a transient condition; most often perturbations in traffic flow as LOS E is approached cause a rapid transition to LOS F.

Appendix C

UDOT Standard Drawings 815-3A & 815-3B

DESIGN STANDARDS FOR RURAL TWO (2) LANE ROADWAYS

GEOMETRIC DESIGN STANDARDS									
	STOPPING SIGHT DISTANCE (m)	DESIGN SPEED (km/h)					PASSING SIGHT DISTANCE (m)	TRUCK CREEP DISTANCE (m)	TRUCK CREEP DISTANCE (m)
		30	50	60	80	100			
STANDARD	25.6	97.4	127.8	157.8	205.8	282.4	128		
PASSING	217	345	487	541	678	728	792		
TRUCK CREEP	33	19	135	258	435	550	755		
PRINCIPAL ARTERIAL									
MAXIMUM GRADE (PERCENT)	N/A	N/A	N/A	5	3	3	3	3	3
MINOR ARTERIAL	N/A	N/A	N/A	5	3	3	3	3	3
MAXIMUM GRADE (PERCENT)	N/A	N/A	N/A	5	3	3	3	3	3
COLLECTOR	N/A	N/A	N/A	5	3	3	3	3	3
MAXIMUM GRADE (PERCENT)	N/A	N/A	N/A	5	3	3	3	3	3
LOCAL	N/A	N/A	N/A	5	3	3	3	3	3
MAXIMUM GRADE (PERCENT)	N/A	N/A	N/A	5	3	3	3	3	3

COLLECTORS									
	DESIGN CONTROL	A.D.T.					DESIGN SPEED (km/h)	TRAVELED WAY (m)	SHOULDER
		UNDER 400	400-600	600-800	800-1000	OVER 1000			
DESIGN SPEED (km/h)		30	50	60	80	100			
TRAVELED WAY (m)		6.6	6.6	6.6	6.6	7.2			
SHOULDER		0.6	0.6	0.6	0.6	0.6			
SURFACE TYPE		ASPHALT CONCRETE PAVEMENT							

NOTES:
1. CLEAR ZONE - USE AASHTO "ROADSIDE DESIGN GUIDE" TO DETERMINE APPROPRIATE MINIMUM CLEAR ZONE.
2. * OPTIONAL APPLICATION 11.2 - MINIMUM PAVED SHOULDER WITH THE REMAINING WIDTH AS UNPAVED BASE COURSE.

LOCAL ROADS									
	DESIGN CONTROL	A.D.T.					DESIGN SPEED (km/h)	TRAVELED WAY (m)	SHOULDER
		UNDER 400	400-600	600-800	800-1000	OVER 1000			
DESIGN SPEED (km/h)		30	50	60	80	100			
TRAVELED WAY (m)		6.6	6.6	6.6	6.6	7.2			
SHOULDER		0.6	0.6	0.6	0.6	0.6			
SURFACE TYPE		ASPHALT CONCRETE PAVEMENT							

PRINCIPAL ARTERIALS									
	DESIGN CONTROL	A.D.T.					DESIGN SPEED (km/h)	TRAVELED WAY (m)	SHOULDER
		UNDER 400	400-600	600-800	800-1000	OVER 1000			
DESIGN SPEED (km/h)		30	50	60	80	100			
TRAVELED WAY (m)		6.6	6.6	6.6	6.6	7.2			
SHOULDER		0.6	0.6	0.6	0.6	0.6			
SURFACE TYPE		ASPHALT CONCRETE PAVEMENT							

MINOR ARTERIALS									
	DESIGN CONTROL	A.D.T.					DESIGN SPEED (km/h)	TRAVELED WAY (m)	SHOULDER
		UNDER 400	400-600	600-800	800-1000	OVER 1000			
DESIGN SPEED (km/h)		30	50	60	80	100			
TRAVELED WAY (m)		6.6	6.6	6.6	6.6	7.2			
SHOULDER		0.6	0.6	0.6	0.6	0.6			
SURFACE TYPE		ASPHALT CONCRETE PAVEMENT							

STANDARD DRAWING TITLE

TWO LANE HIGHWAYS

STANDARD DRAWING TITLE

STANDARDS FOR RURAL

UTAH DEPARTMENT OF TRANSPORTATION

STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION

SALT LAKE CITY, UTAH

REVISIONS

NO. 1

DATE

DESCRIPTION

REVISIONS

NO. 1

DATE

DESCRIPTION

ALL DIMENSIONS ARE SHOWN IN METERS 1:1 UNLESS OTHERWISE NOTED.

Appendix D

Structures Maintenance Issues and Inventory Appraisal Sheets
Inspection year 1998 Recommendations of work to be done on the Structures on SR-12:

Struct. No.	Shed Responsibilities	Special Crews or Maintenance Contract	Rehabilitation Contract
C 214	1) Remove the dirt around the bearings and from the bearing seats. 2) Seal the deck joints with crack sealant material. 3) Sweep the deck shoulders.	1) Update the terminal ends of the approach barrier to meet current standards.	1) This bridge should be replaced as soon as possible.
E1852	None	1) Update the terminal ends of the approach barrier to meet current standards.	None
V 55	None	1) Repair or replace the failed shotcrete on the north side of the tunnel. The native rock is starting to break up in the areas where the shotcrete is gone.	None
V 56	Prompt Action Required: Remove the loose rock over the EB traffic lane.	1) Repair the cracked and damaged shotcrete inside the tunnel.	None
E1854	1) Repair the erosion channels in the fill slopes behind the wingwalls at the SE and SW corners of the culvert.	1) Update the guardrail terminal end sections to meet current standards. 2) Make some provision for drainage of water from an asphalt cutting curb underneath the guardrail on the south side. Otherwise, remove the curbing material so it does not concentrate water and cause erosion of the side slopes.	None
E1256	1) Place fill material in the erosion channels at the NE and NW corners of the deck. 2) Sweep the deck shoulders.	1) Update the guardrail connection to the parapets and terminal ends to meet current standards.. The gap between the guardrail and parapets is a safety hazard. 2) Remove the asphalt overlay and install a waterproofing membrane with a new overlay on the deck because of the heavy efflorescent staining on the bottom surface of the deck slab.	None

Appendix D, continued

Structures Maintenance Issues and Inventory Appraisal Sheets
Inspection year 1998 Recommendations of work to be done on the Structures on SR-12:

Struct.	Shed Responsibilities	Special Crews or Maintenance Contract	Rehabilitation Contract
D 245	<ol style="list-style-type: none"> 1) Seal the backwall joints with a crack sealant material. 2) Provide for drainage of water from the southerly side corners of the deck. 3) Sweep the deck shoulders. 	<ol style="list-style-type: none"> 1) Update all guardrail connections to the parapet and terminal ends to meet current standards. 2) Repair or replace the wire basket riprap through the structure opening. The wire on the bottom of the baskets has been broken and cut. 3) Replace additional riprap at the base of the downstream check dam to replace the rock that has been washed out at the S end of the dam. 	<ol style="list-style-type: none"> 1) Install a waterproofing membrane on the bridge deck with a new asphalt wearing surface.
V1419	<ol style="list-style-type: none"> 1) Remove the sand and soil filling up the culvert. 	<ol style="list-style-type: none"> 1) Place guardrail on the approaches and continuously across the structure. 	None
E1124	<ol style="list-style-type: none"> 1) Place riprap 100 feet along the upstream roadway fill and stream bank to prevent further erosion of the slope. 2) Remove the large tree and other drift hung up on the inlet end of the center partition of the culvert. 	<ol style="list-style-type: none"> 1) Place guardrail or concrete barrier on the approaches and across the structure as required by current standards. 	None
E1125	<ol style="list-style-type: none"> 1) Place guardrail on the approaches and continuously across the structures. 	None	None
C 281	<ol style="list-style-type: none"> 1) Update the guardrail connection to the parapets and terminal ends to meet current standards. 	<ol style="list-style-type: none"> 1) Remove the debris from the piers. 2) Seal the joints. 	None
E1077	<ol style="list-style-type: none"> 1) Remove the barb wire fence across the outlet of the box. This fence will collect debris and restrict the flow of water at high runoff. 	<ol style="list-style-type: none"> 1) Place guardrail or concrete barrier on the approaches and across the structure as required by current standards. 	None

Appendix D, continued

Structures Maintenance Issues and Inventory Appraisal Sheets
Inspection year 1998 Recommendations of work to be done on the Structures on SR-12:

C 322	<ol style="list-style-type: none"> 1) Repair the undermined riprap along the W abutment and provide for drainage at this end of the bridge to correct the problem. 2) Remove the brush growing under and along the east side of the structure. 	None	None
C 284	<ol style="list-style-type: none"> 1) Place additional riprap along the N end fill slope to replace what has been washed away. 2) Place additional smaller sized riprap in the void areas of the concrete barrier at the SW corner of the bridge. 3) Extend the deck drain pipes so water no longer discharges onto the lower flange of the exterior girders. 	<ol style="list-style-type: none"> 1) Update the terminal ends of the concrete approach barrier to meet current standards. 2) Completely close the expansion joints. 	None
E1091	<ol style="list-style-type: none"> 1) Place riprap in the outlet cutoff wall scour hole. This scour hole is now deeper than the cutoff wall and the apron is now becoming undermined. 	<ol style="list-style-type: none"> 1) Place guardrail on the approaches to the culvert and continuously across the structure. 	None
E1092	None	<ol style="list-style-type: none"> 1) Install guardrail or concrete barrier on the approaches and across the structure 	None
C 784	<ol style="list-style-type: none"> 1) Seal the backwall and fill and seal the relief joints. A large gap has developed at the relief joints at both ends of the bridge because the approach pavement has settled. Traffic is impacting the ends of the approach slabs. 	None	None

Appendix D, continued

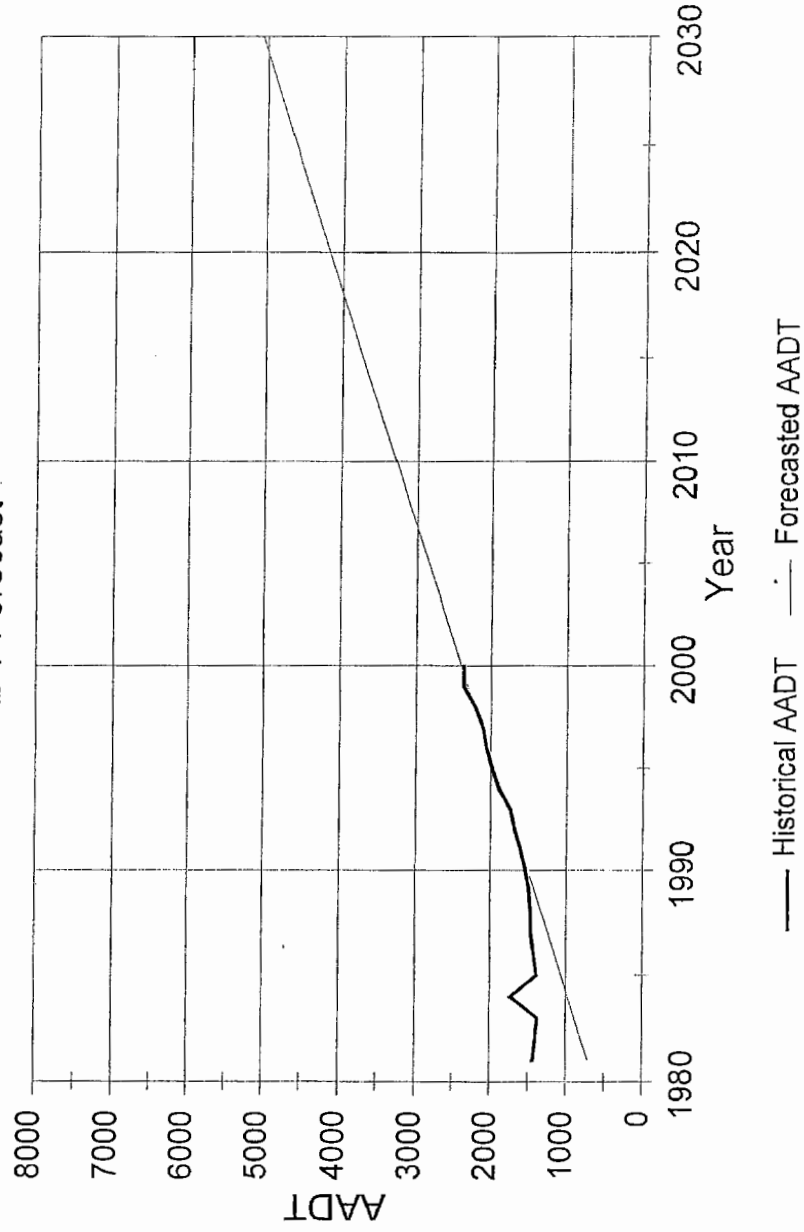
Structures Maintenance Issues and Inventory Appraisal Sheets
Inspection year 1998 Recommendations of work to be done on the Structures on SR-12:

V1418	<ol style="list-style-type: none">1) Place well-graded riprap behind and adjacent to the SW wingwall to stop the undermining of the riprap.2) Place riprap along the S abutment to control the undermining of the footing.	<ol style="list-style-type: none">1) Install guardrail on approaches and across the structure as required by current standards.	None
E1860	<ol style="list-style-type: none">1) Place riprap at the outlet cutoff wall where a large scour hole has developed.2) Remove the tree growing in the joint between the invert and wingwall on the E side of the inlet to the box.	<ol style="list-style-type: none">1) Place guardrail on the approaches and continuously across the structure.	None

Appendix E
Traffic Projection graphs

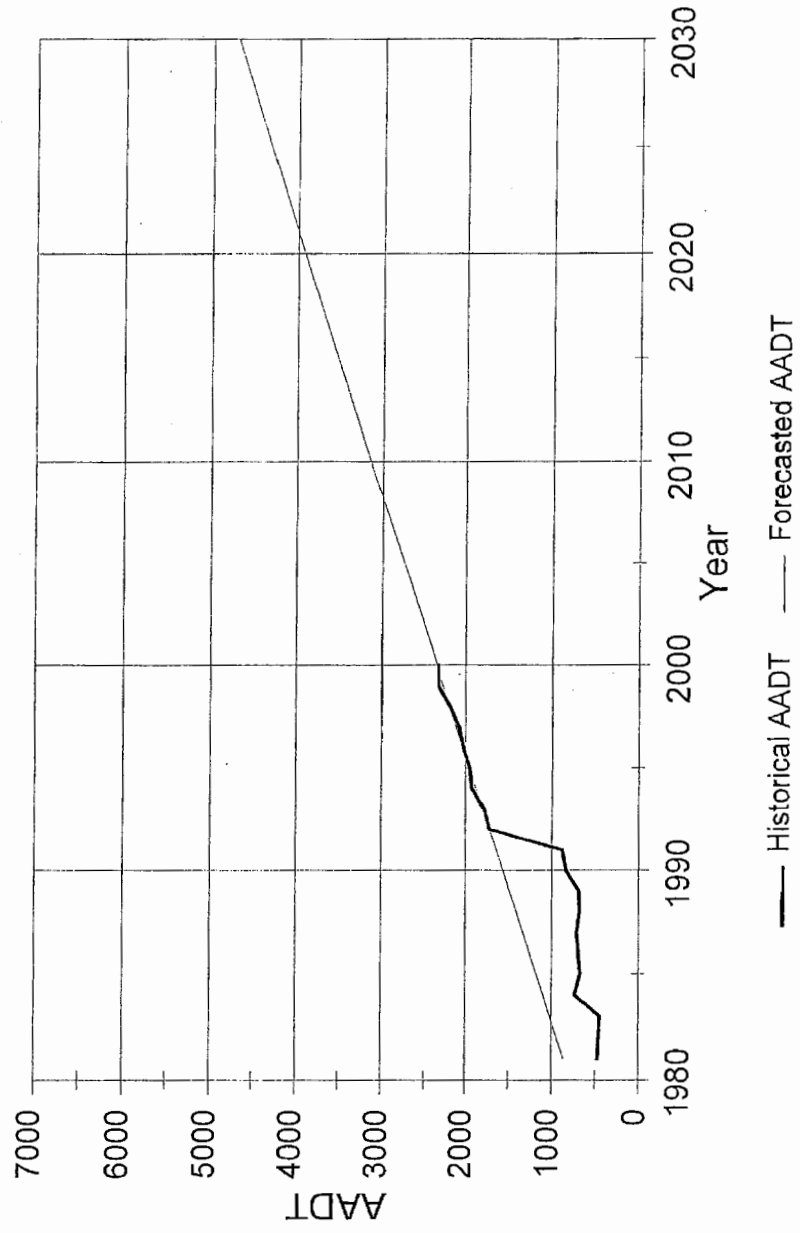
Segment 1

AADT Forecast



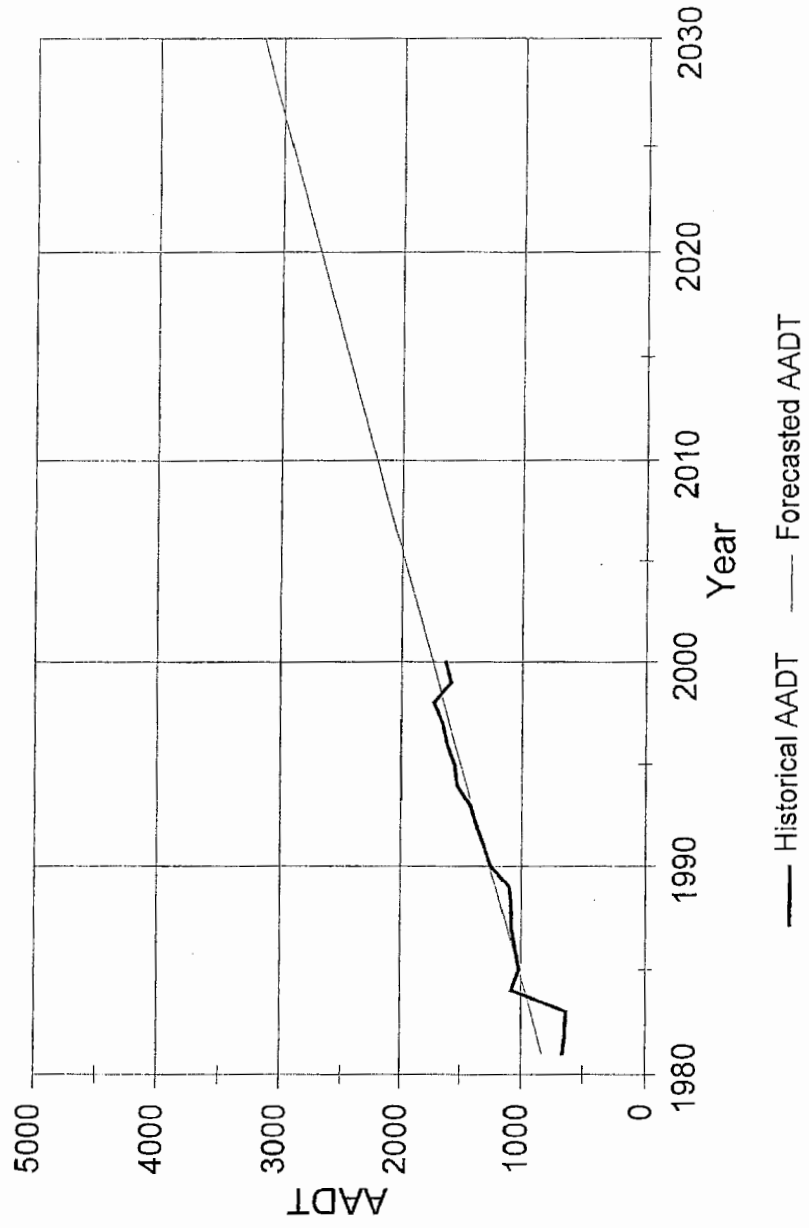
Segment 2a

AADT Forecast

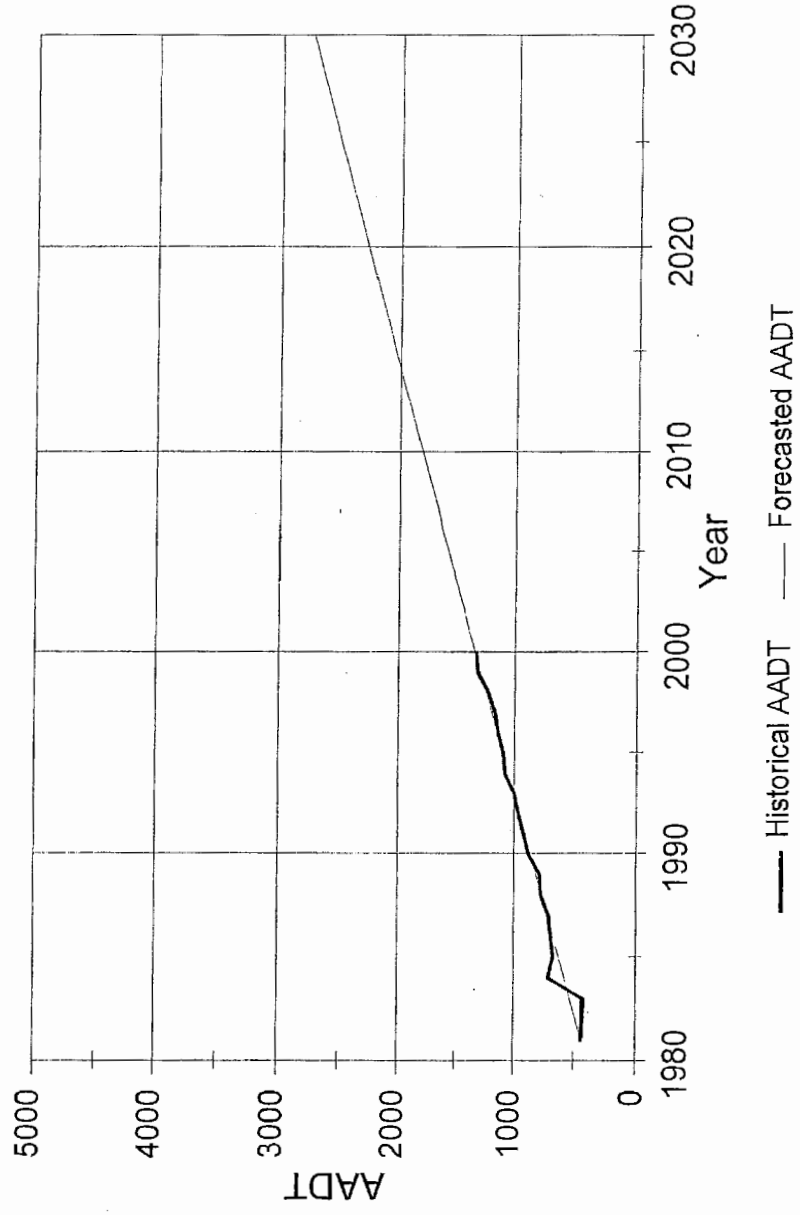


Segment 2b

AADT Forecast

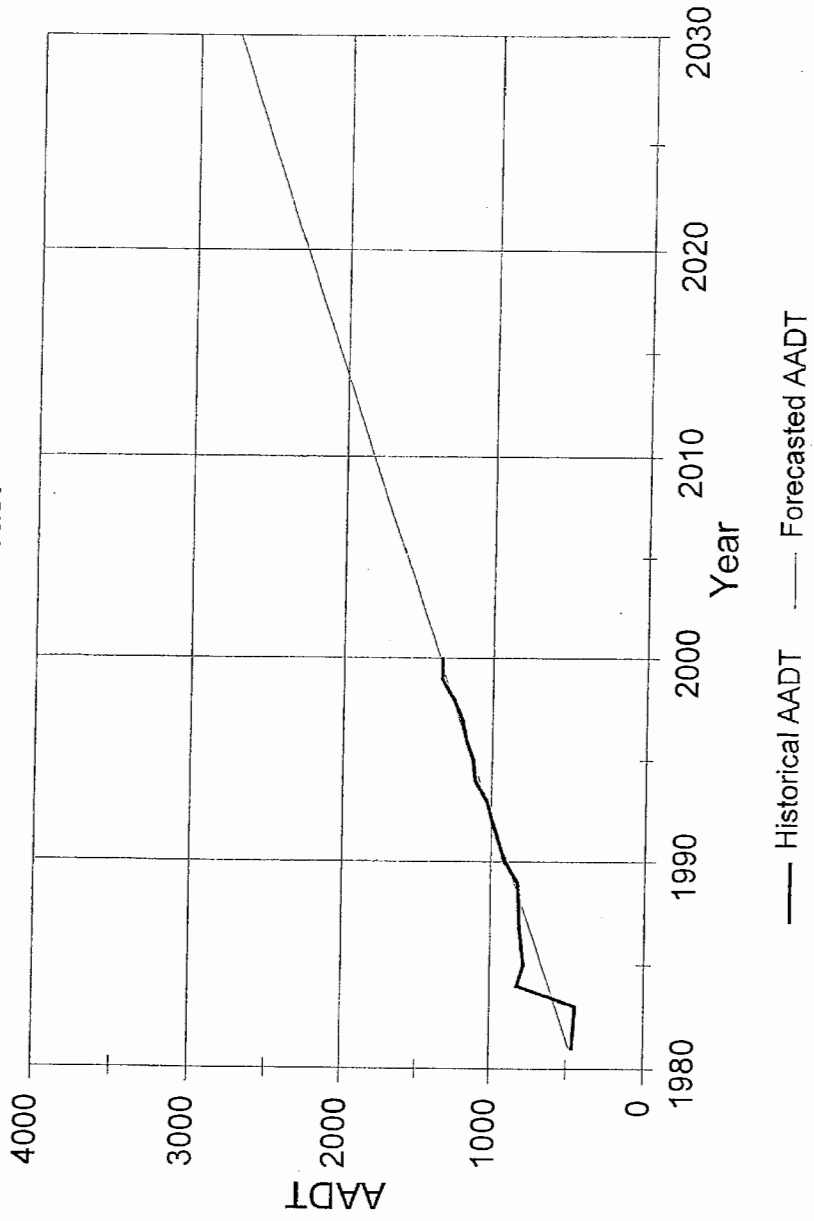


Segment 2c AADT Forecast



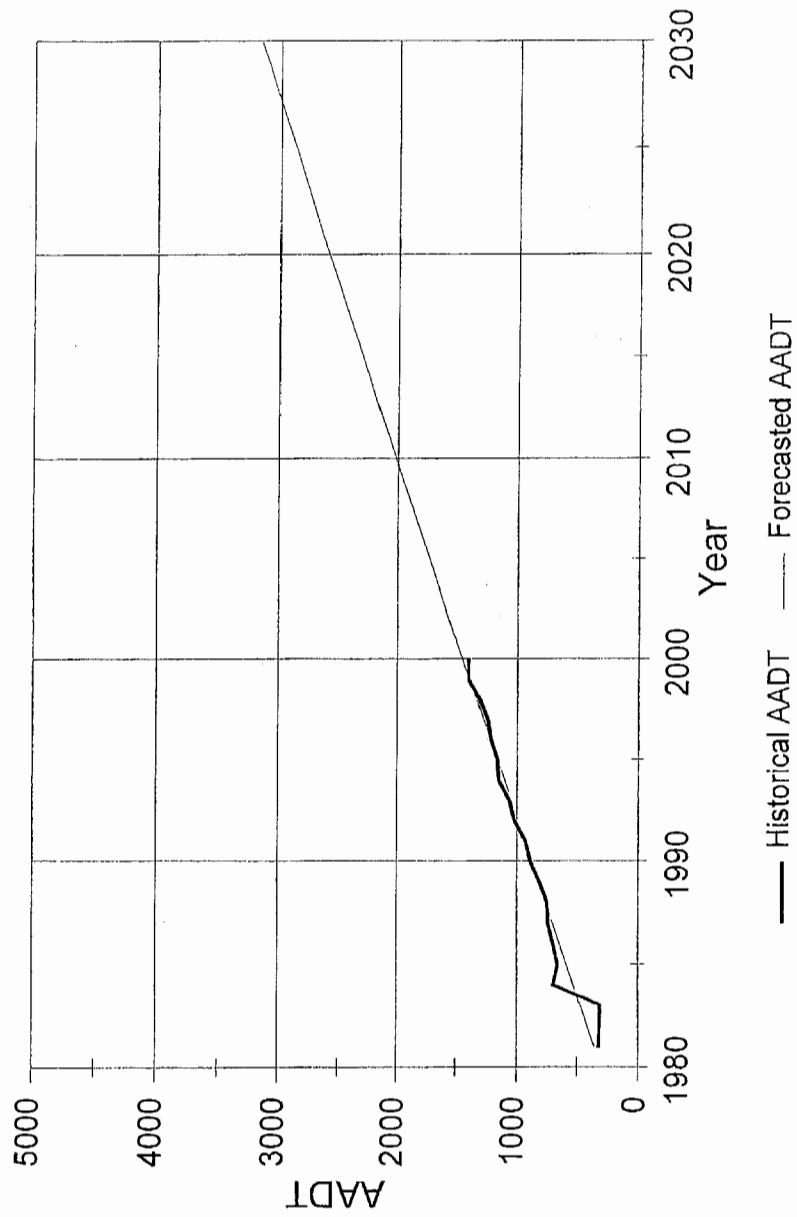
Segment 2d

AADT Forecast



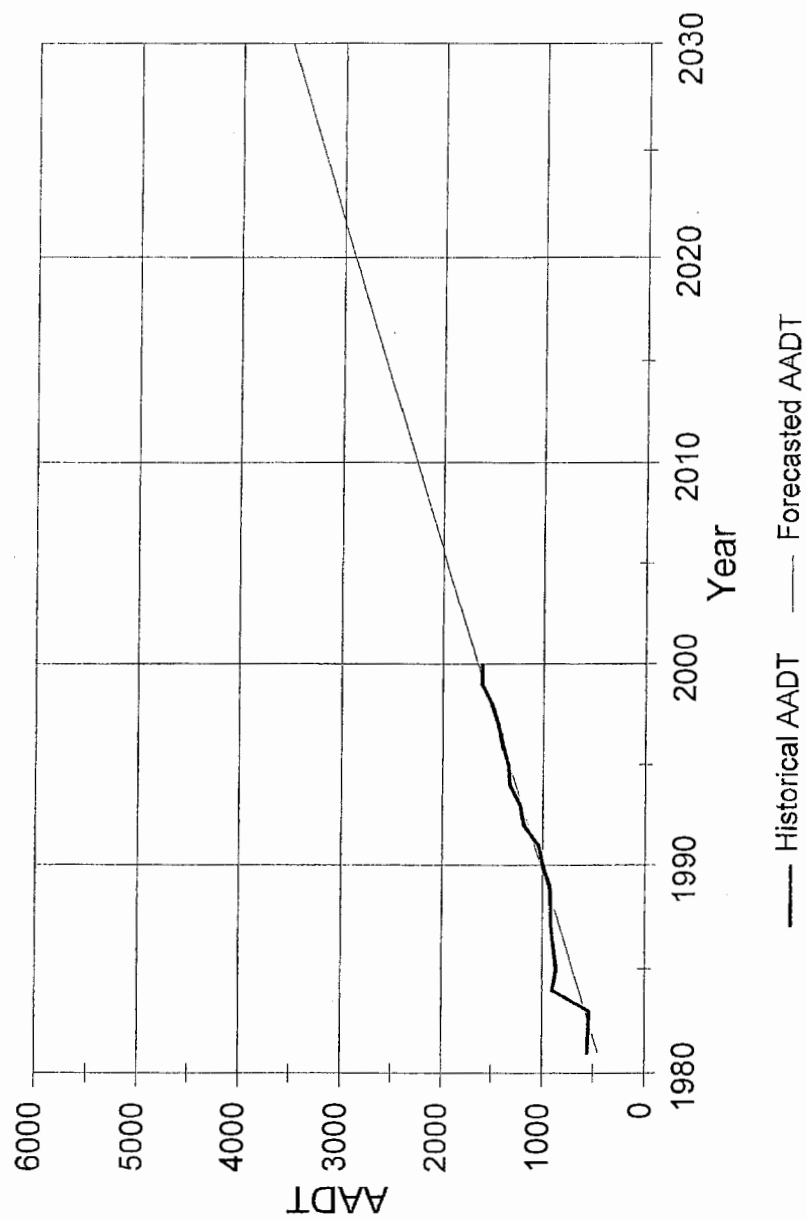
Segment 2e

AADT Forecast



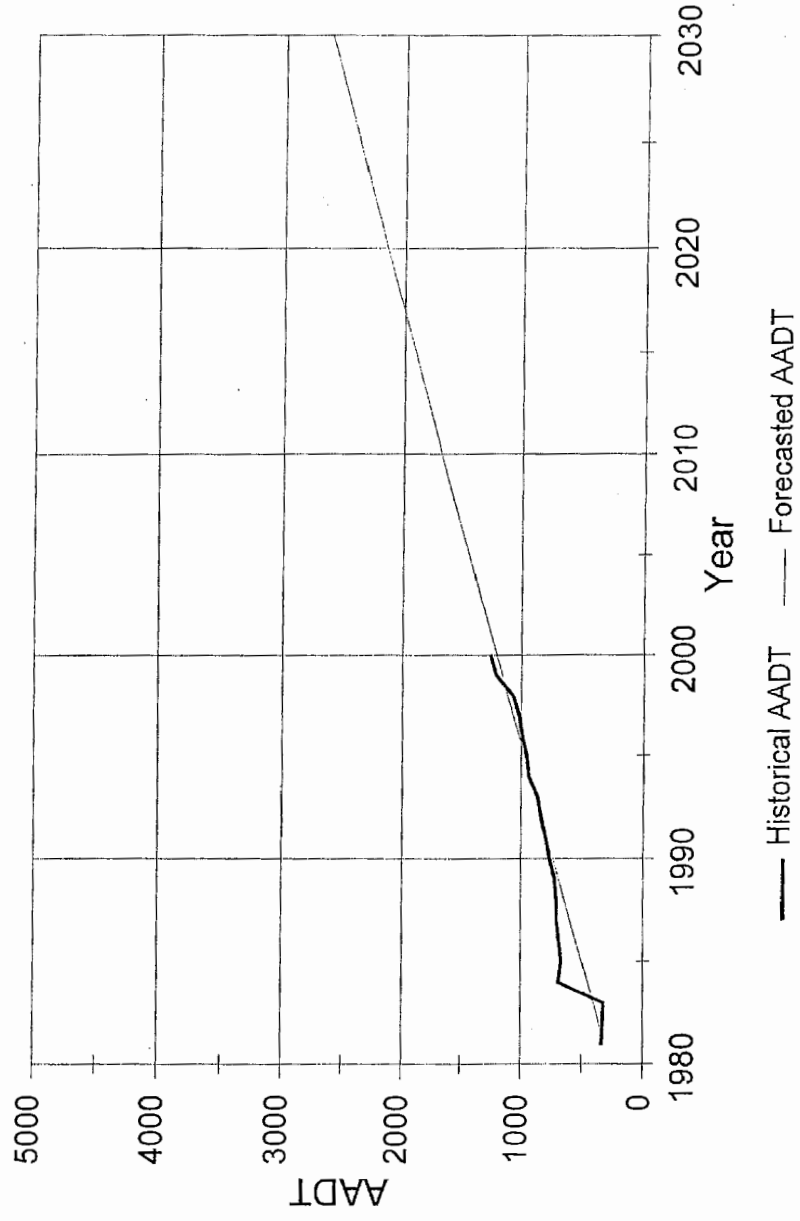
Segment 2f

AADT Forecast



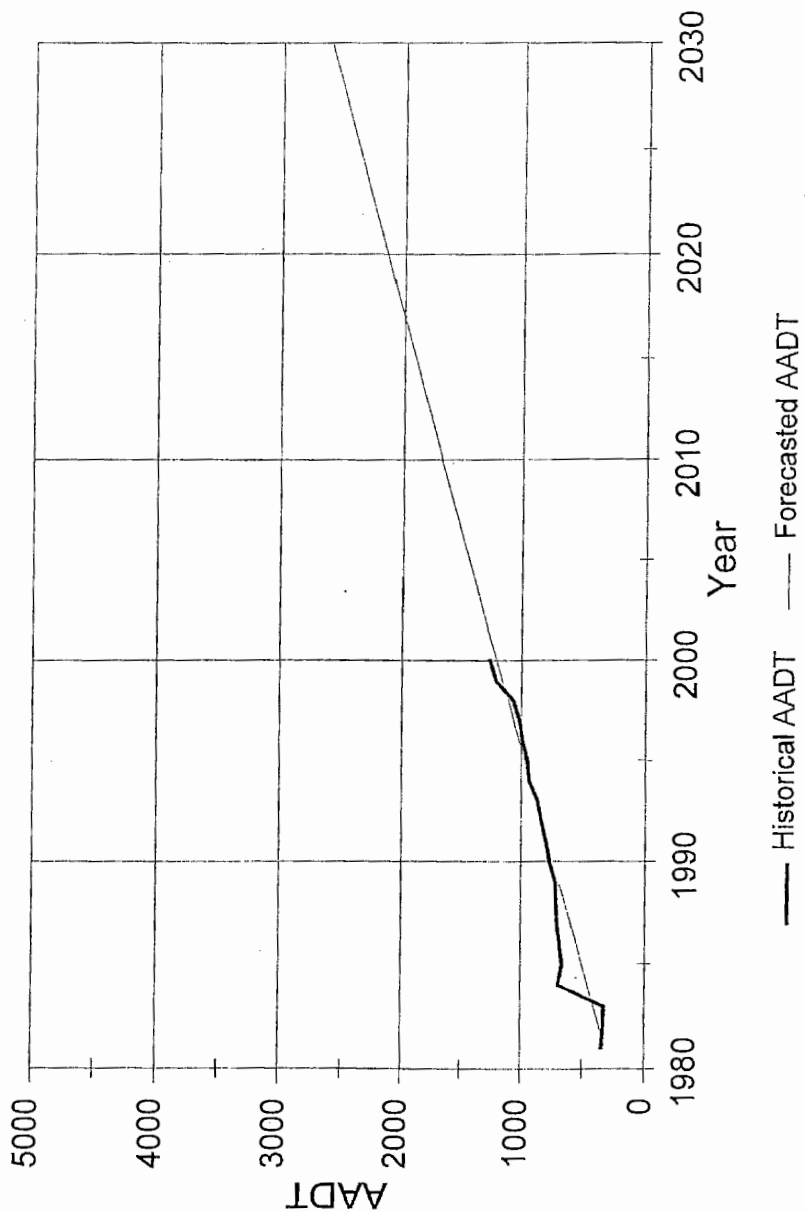
Segment 3a

AADT Forecast



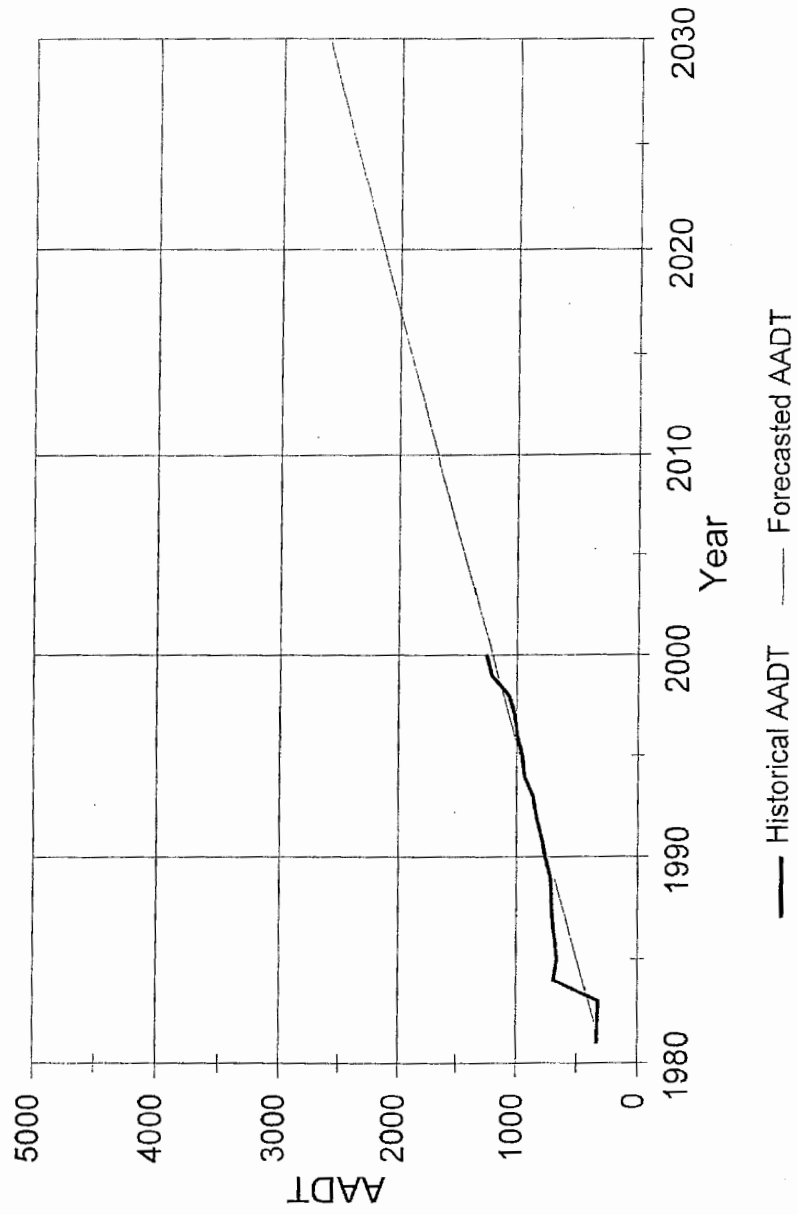
Segment 3b

AADT Forecast



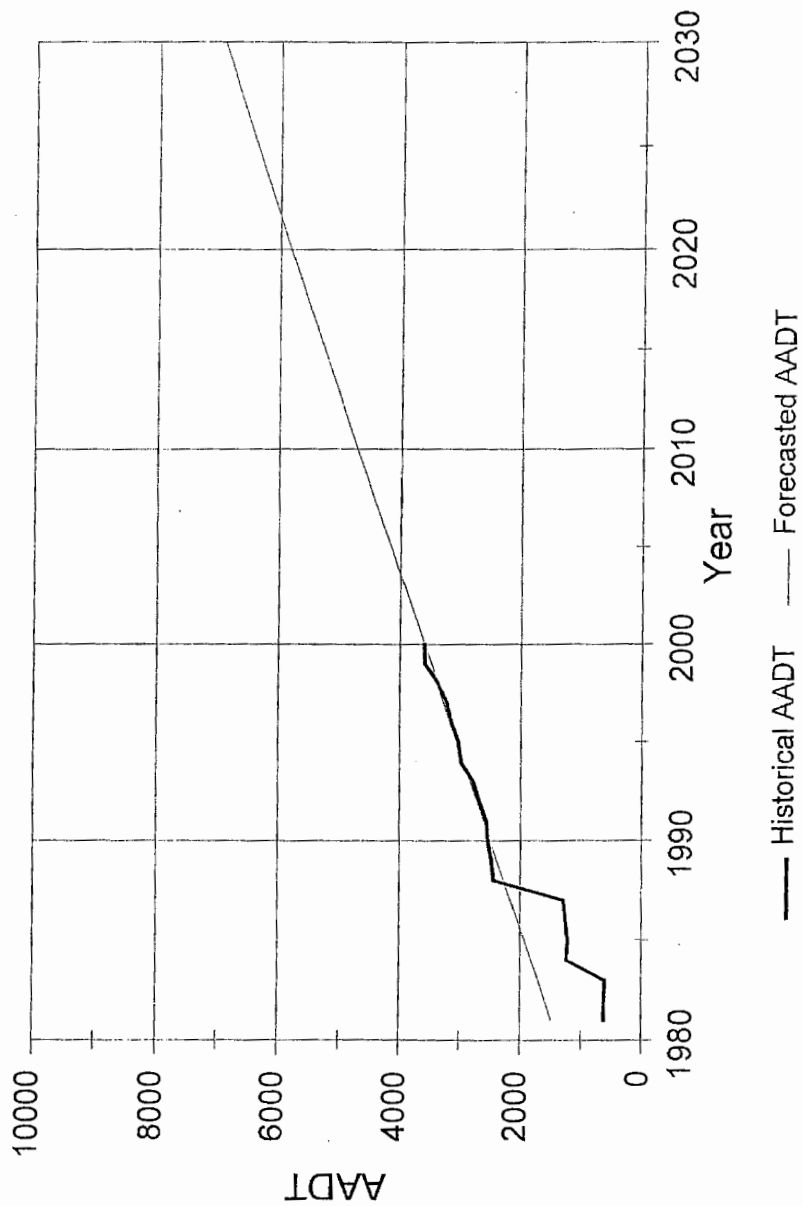
Segment 3c

AADT Forecast



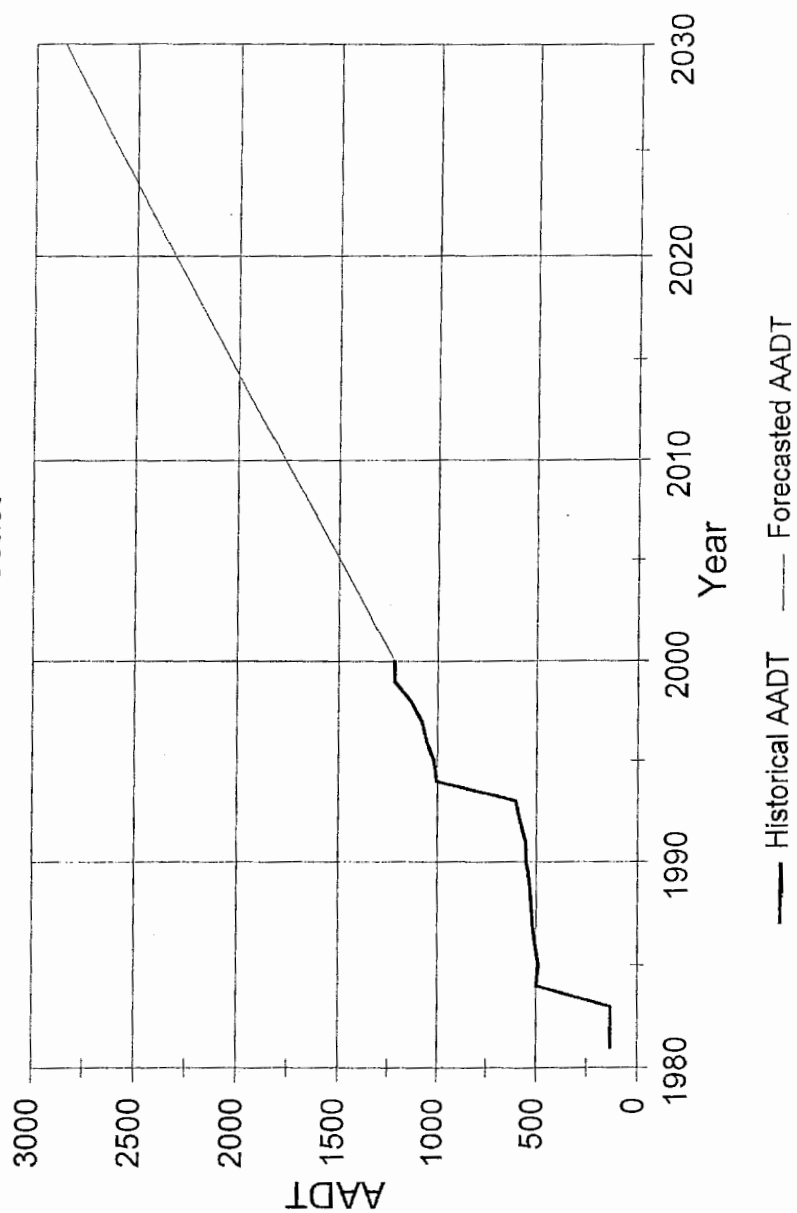
Segment 3d

AADT Forecast



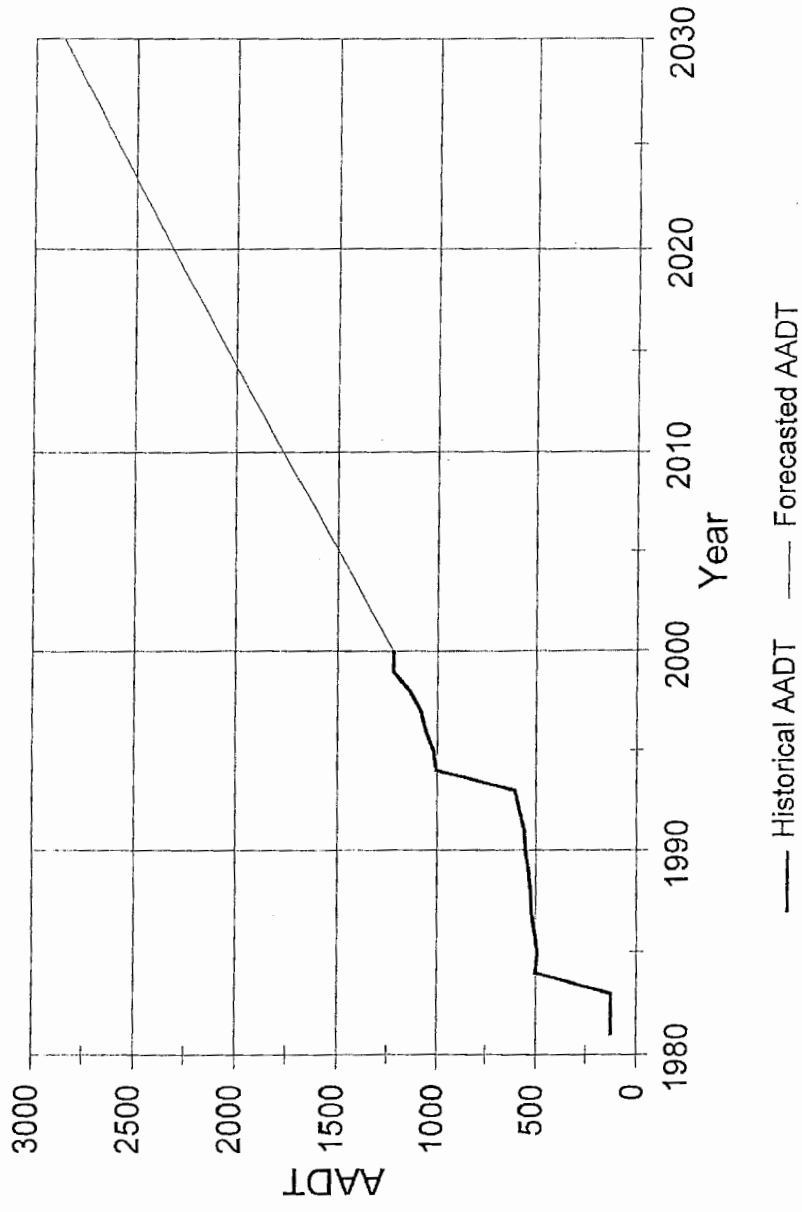
Segment 4a

AADT Forecast



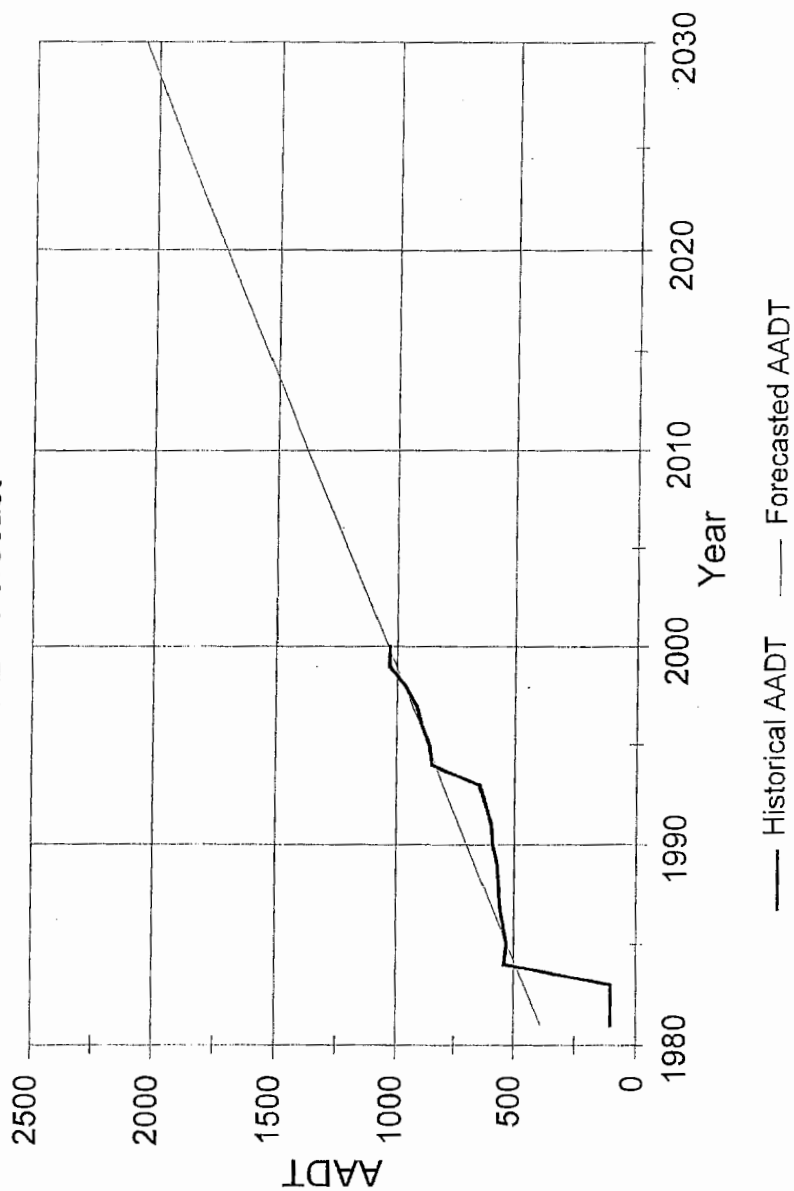
Segment 4b

AADT Forecast



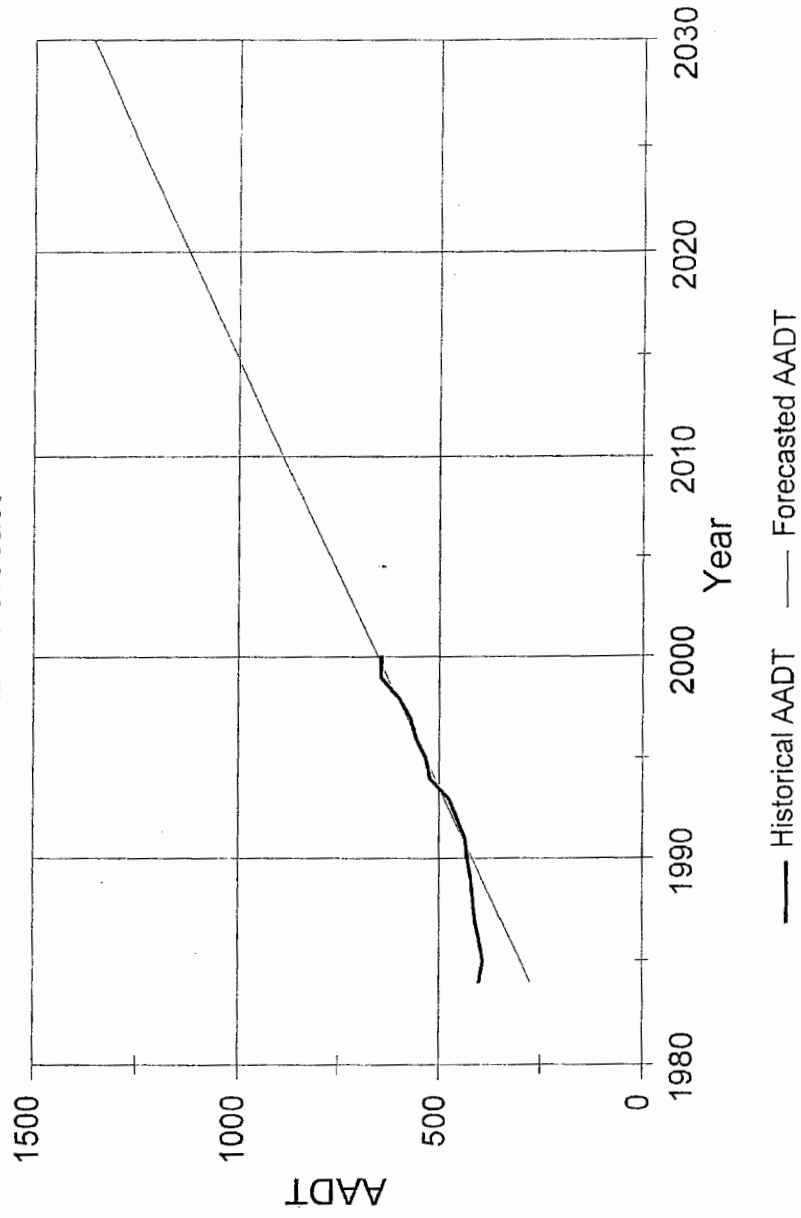
Segment 5a

AADT Forecast



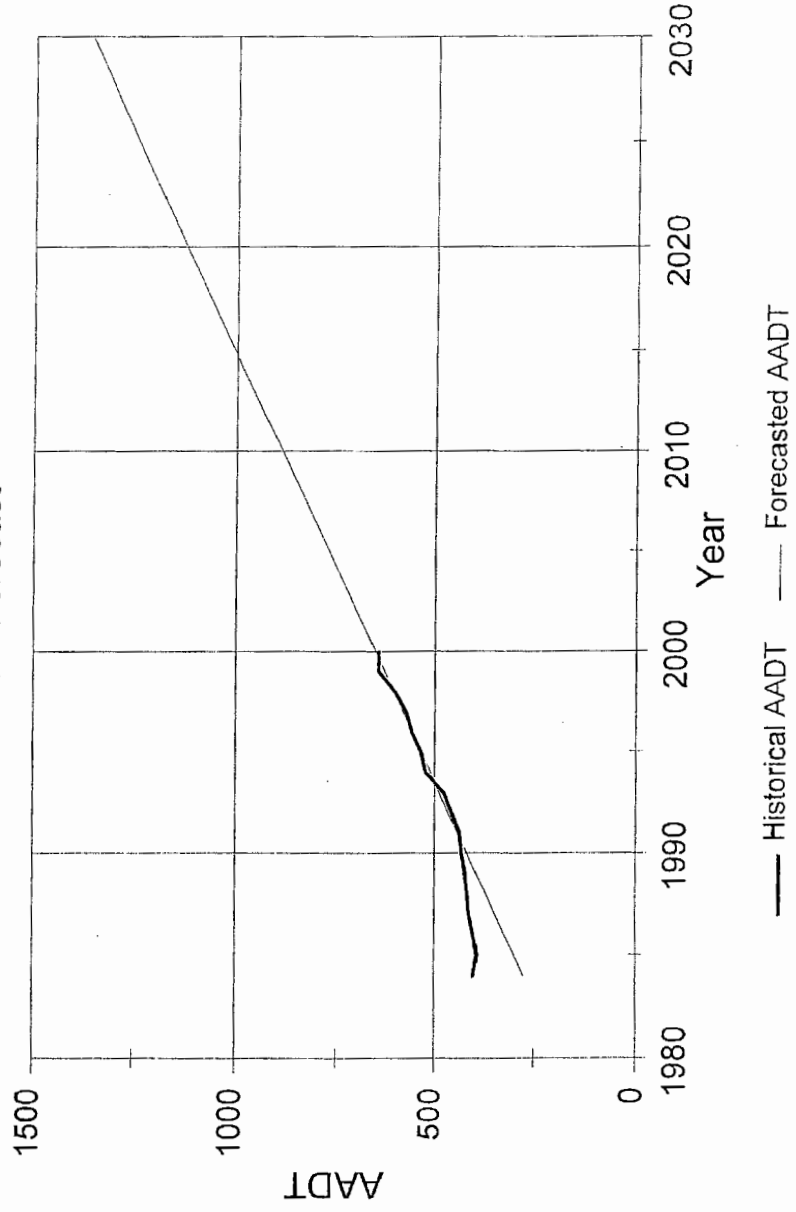
Segment 5b

AADT Forecast



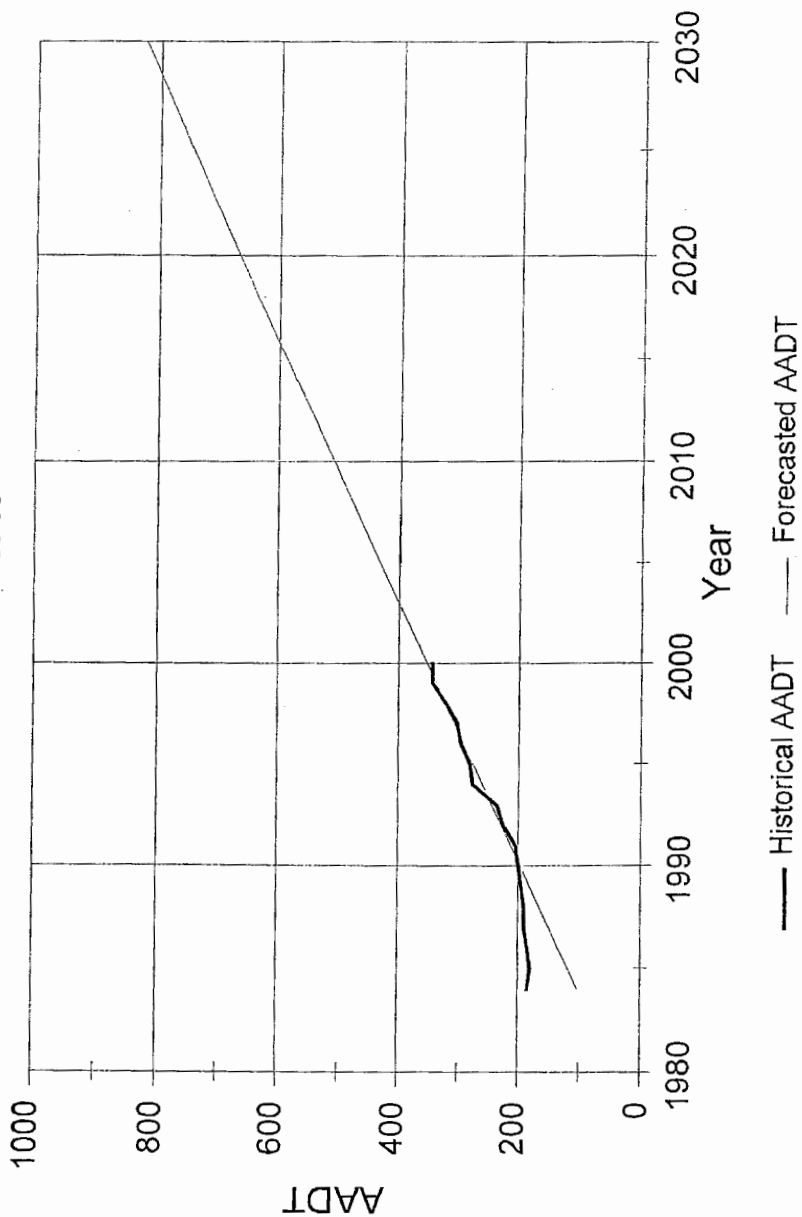
Segment 5c

AADT Forecast



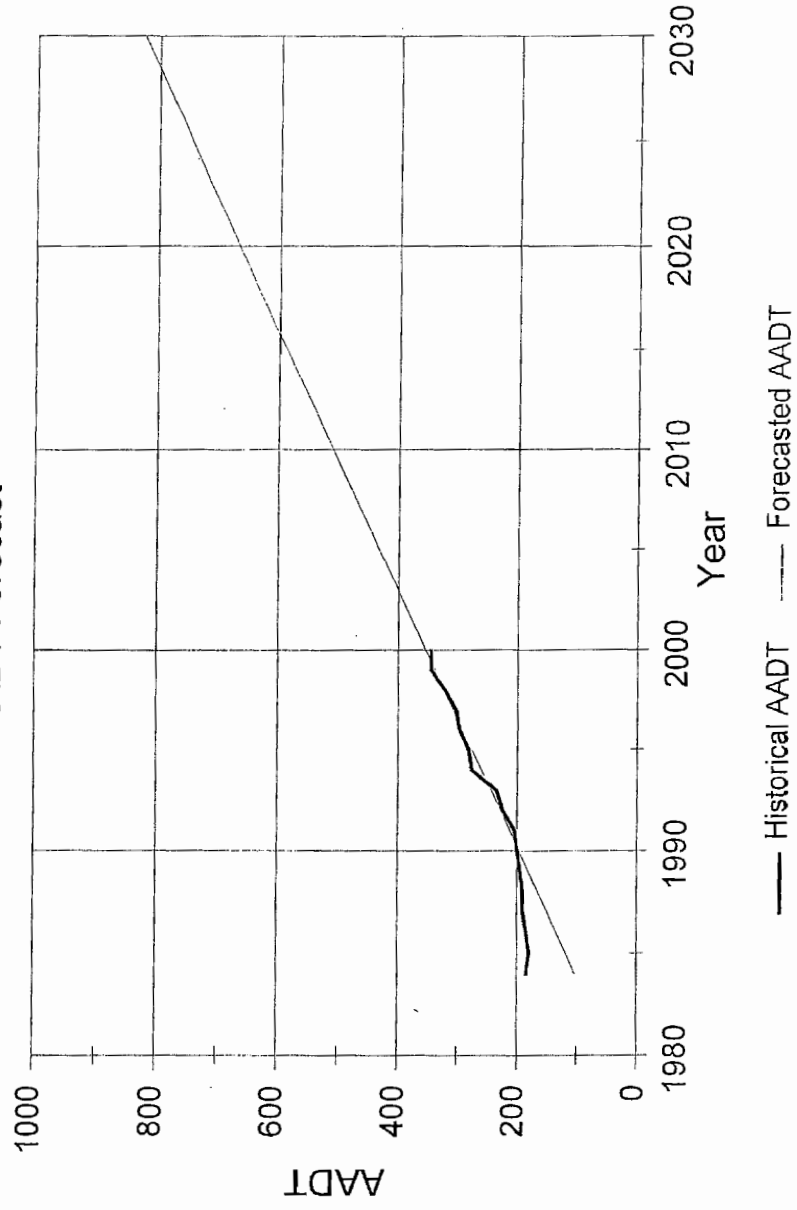
Segment 5d

AADT Forecast



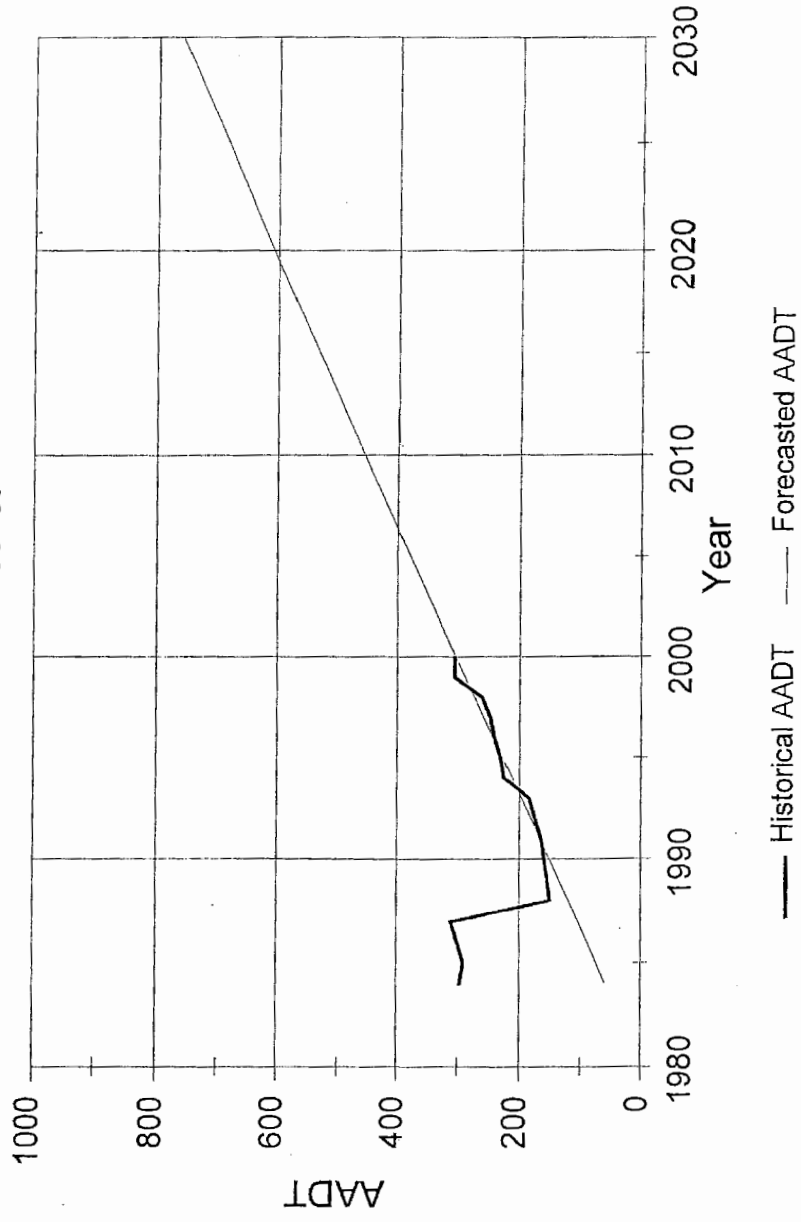
Segment 5e

AADT Forecast



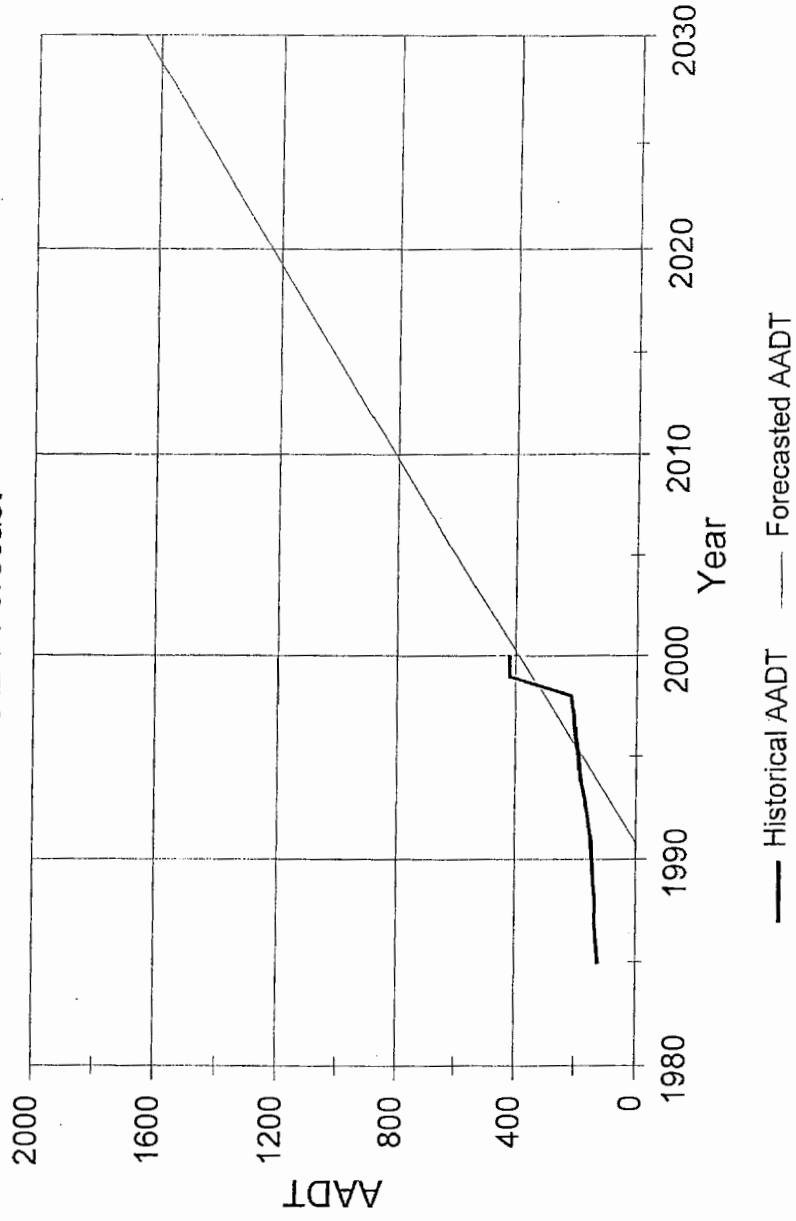
Segment 5f

AADT Forecast



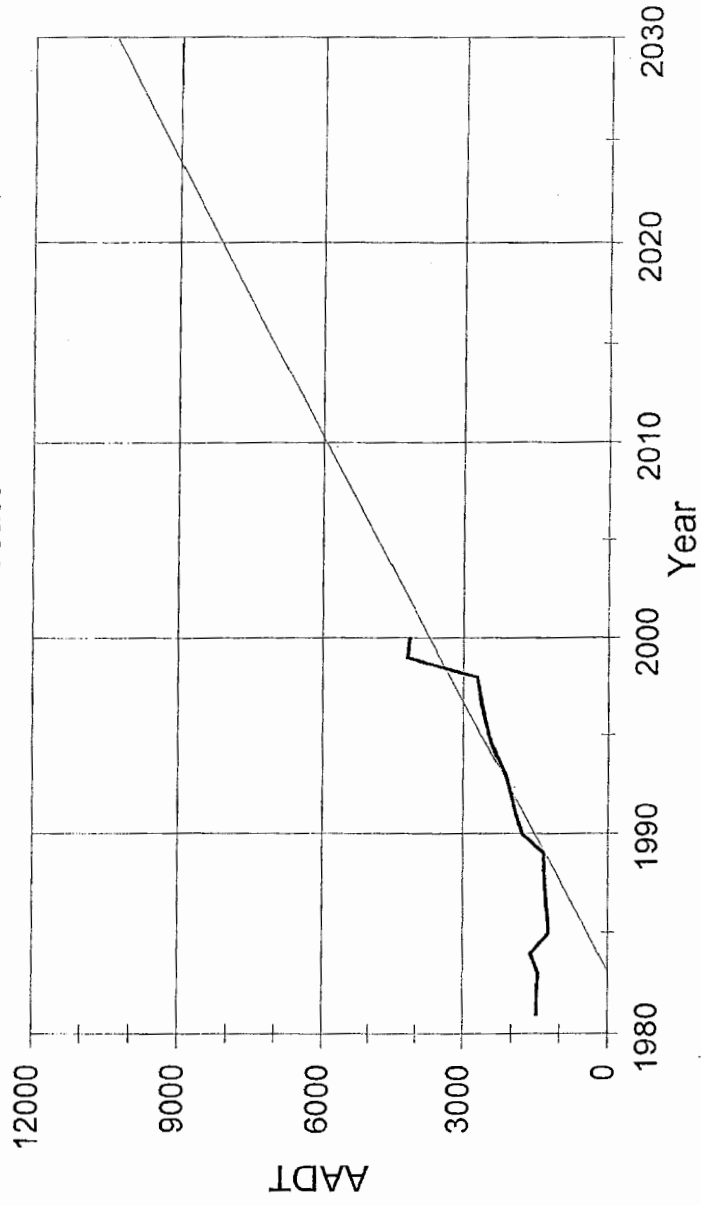
Segment 5g

AADT Forecast



Segment 6

AADT Forecast

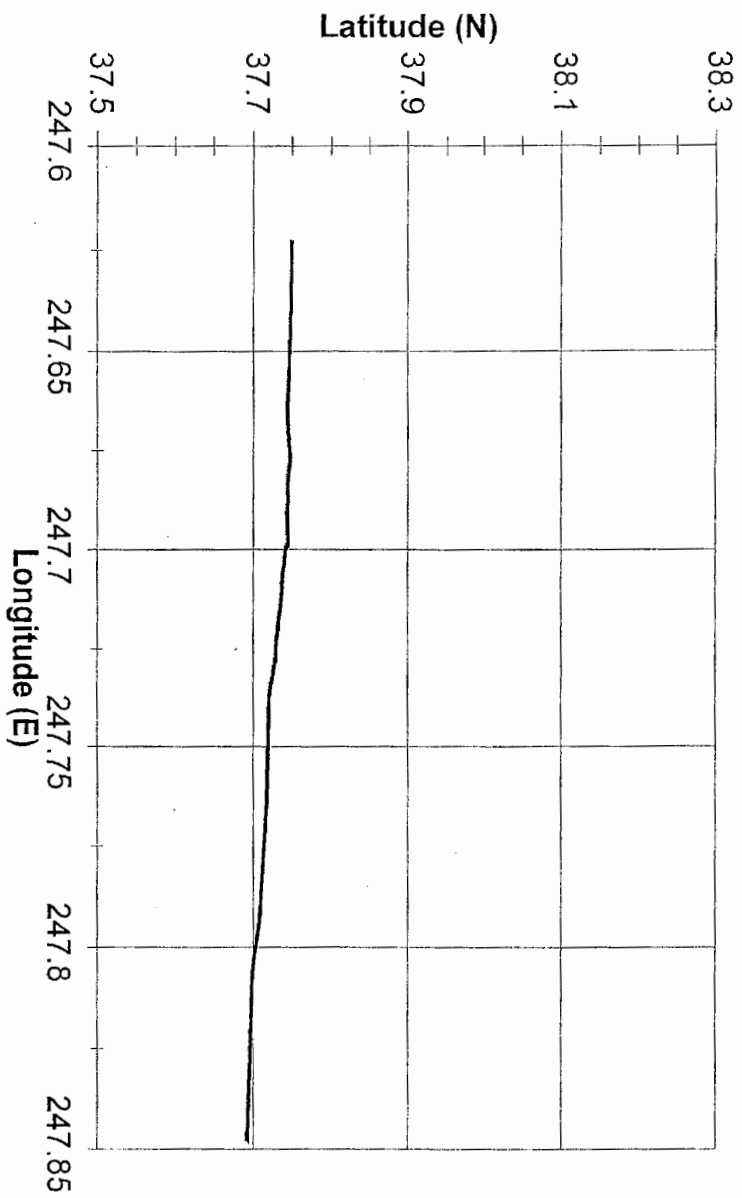


Appendix F

Horizontal and Vertical Alignment graphs

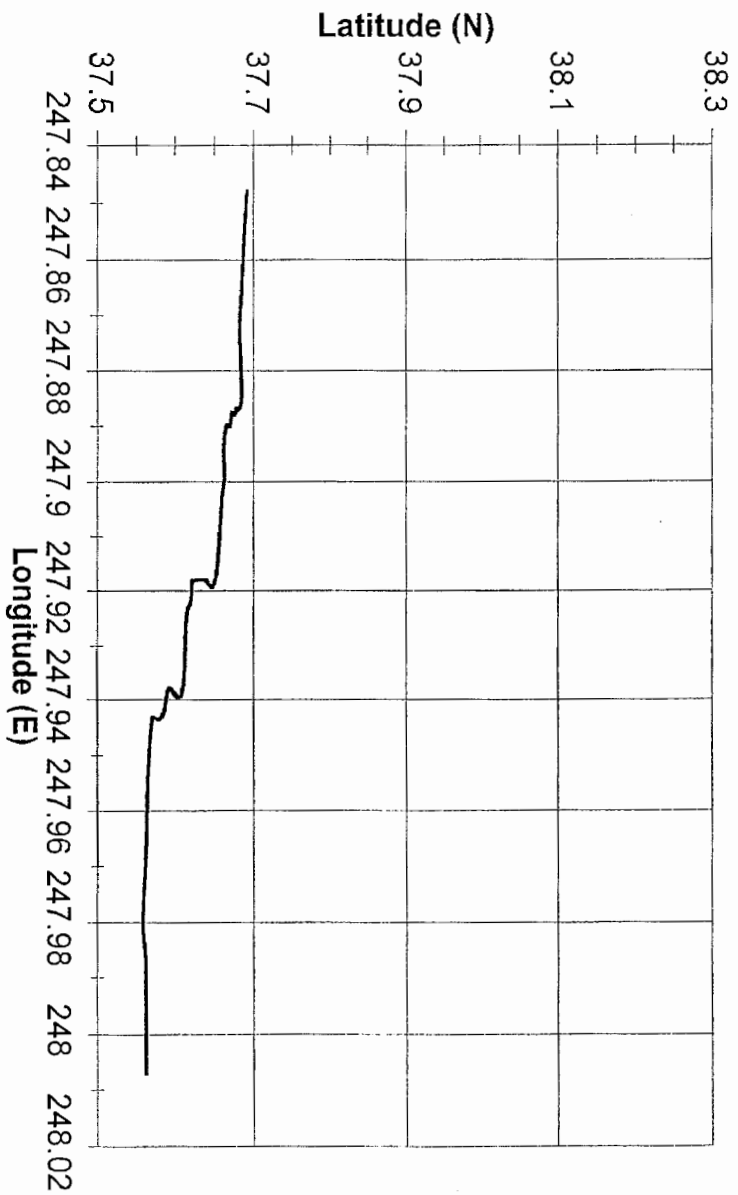
Horizontal Alignment

Section 1 (MP 0.00 - 13.68)



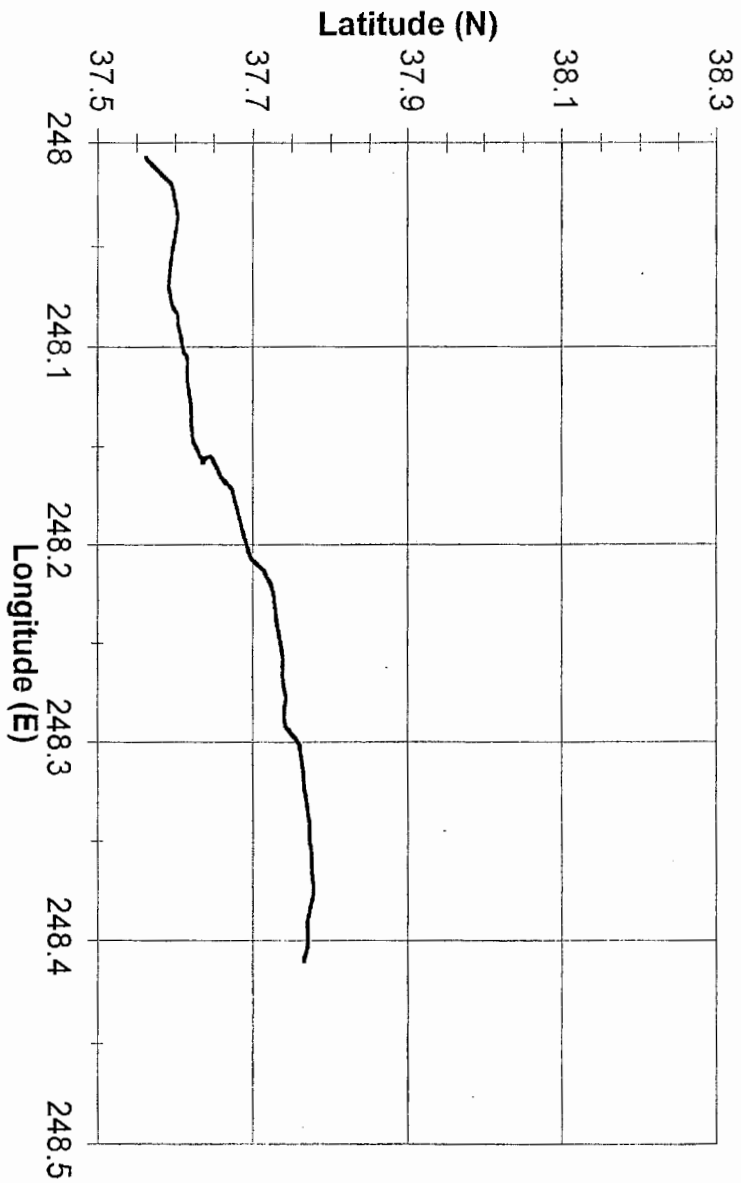
Horizontal Alignment

Section 2 (MP 13.68 - 29.48)



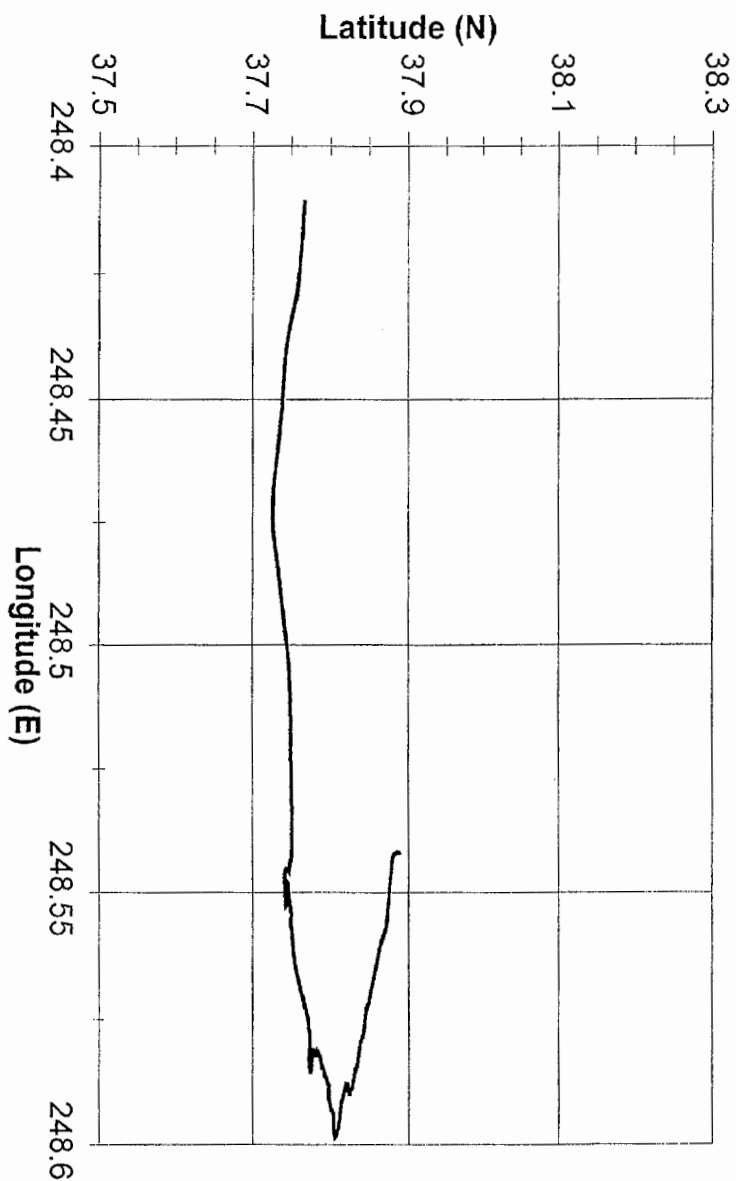
Horizontal Alignment

Section 3 (MP 29.48 - 60.49)



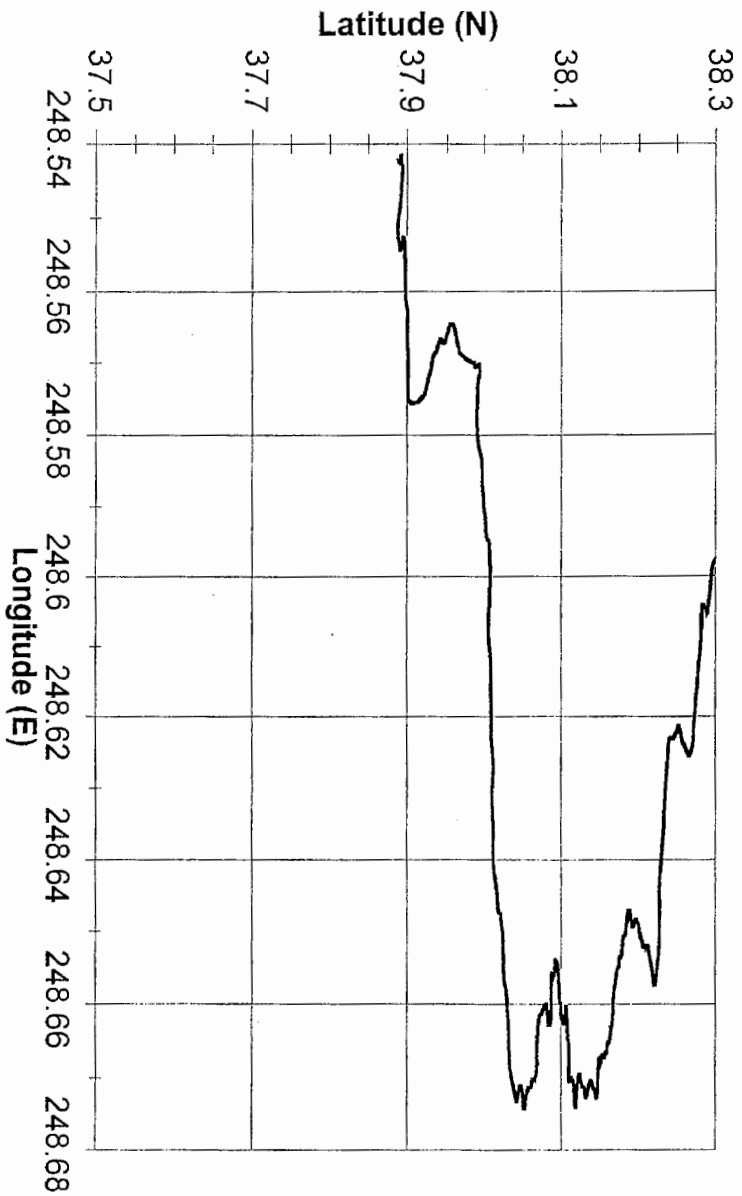
Horizontal Alignment

Section 4 (MP 60.49 - 83.77)



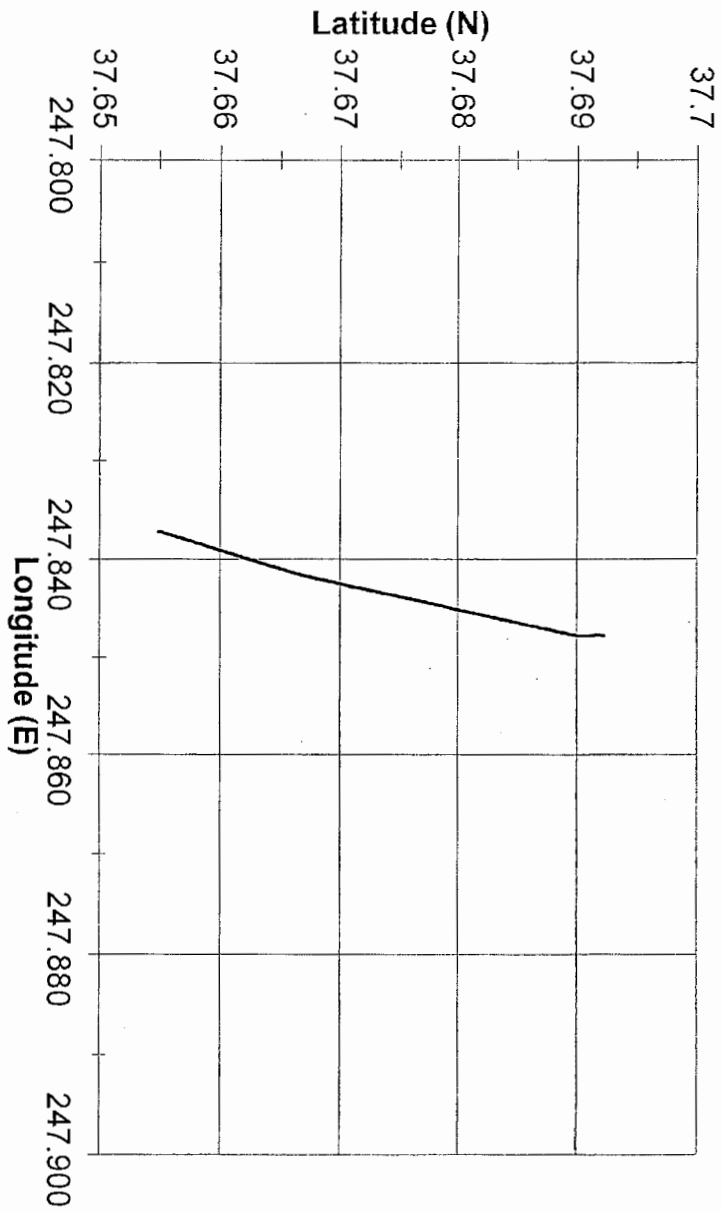
Horizontal Alignment

Section 5 (MP 83.77 - 123.67)

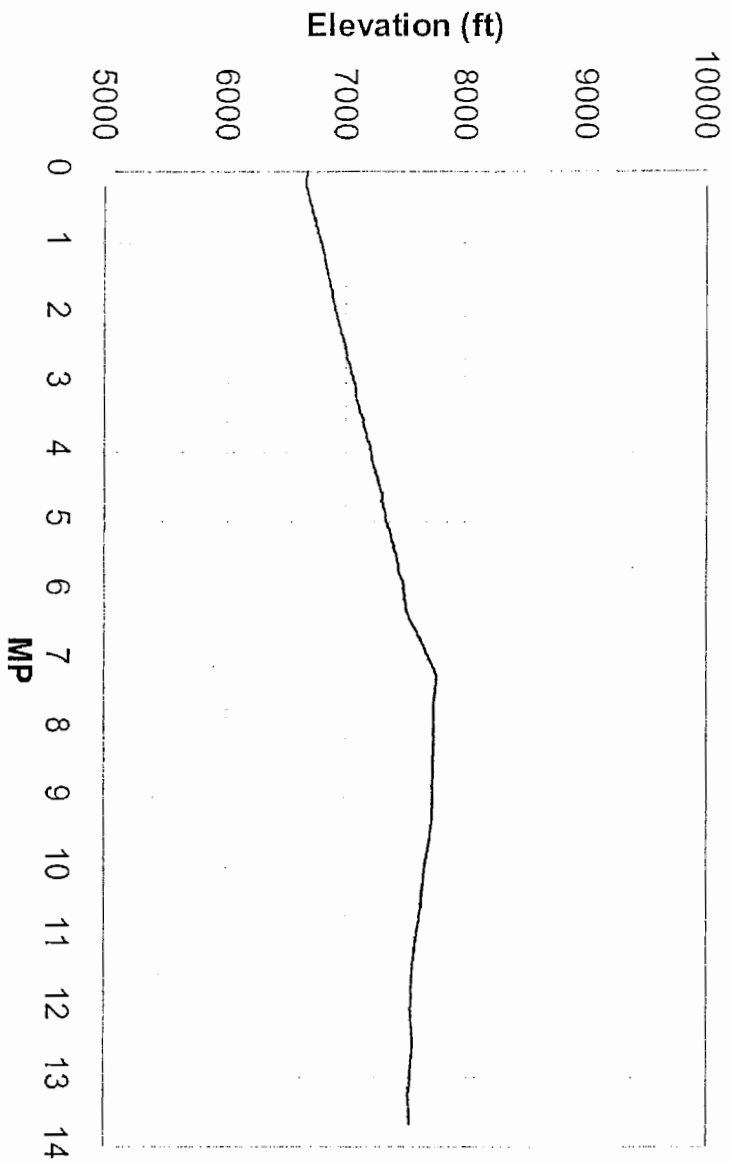


Horizontal Alignment

Section 6 (SR-63 MP 0.00 - 2.65)

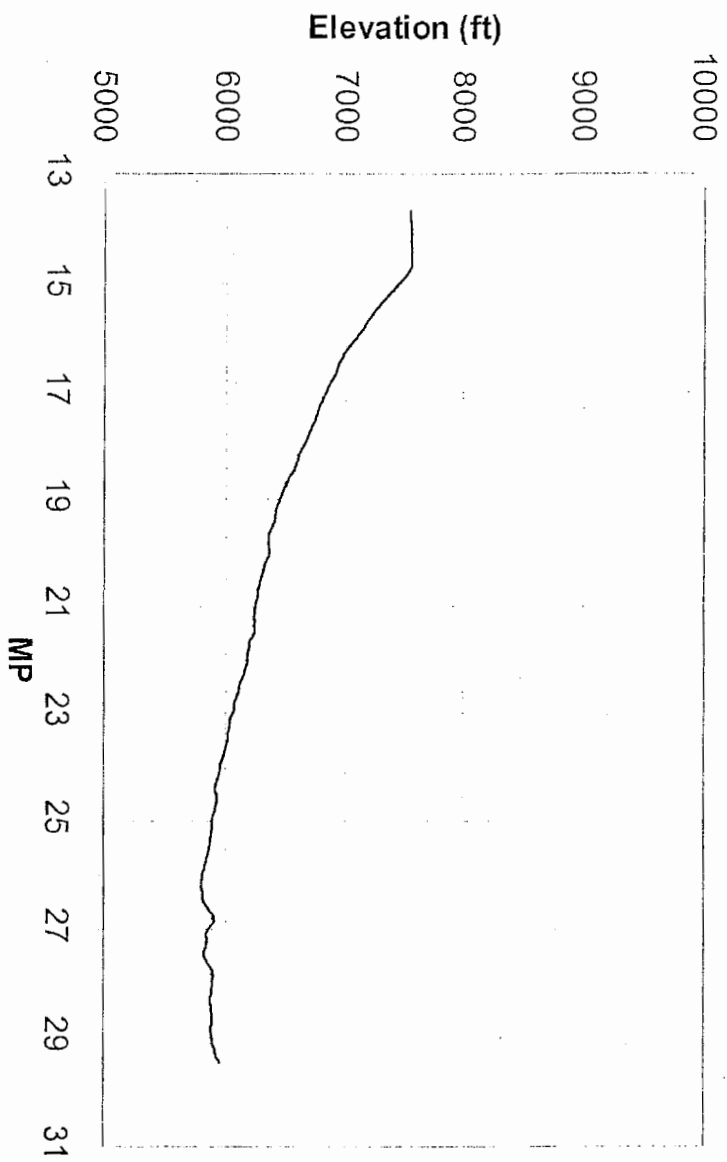


Vertical Alignment
Section 1 (MP 0.00 - 13.68)



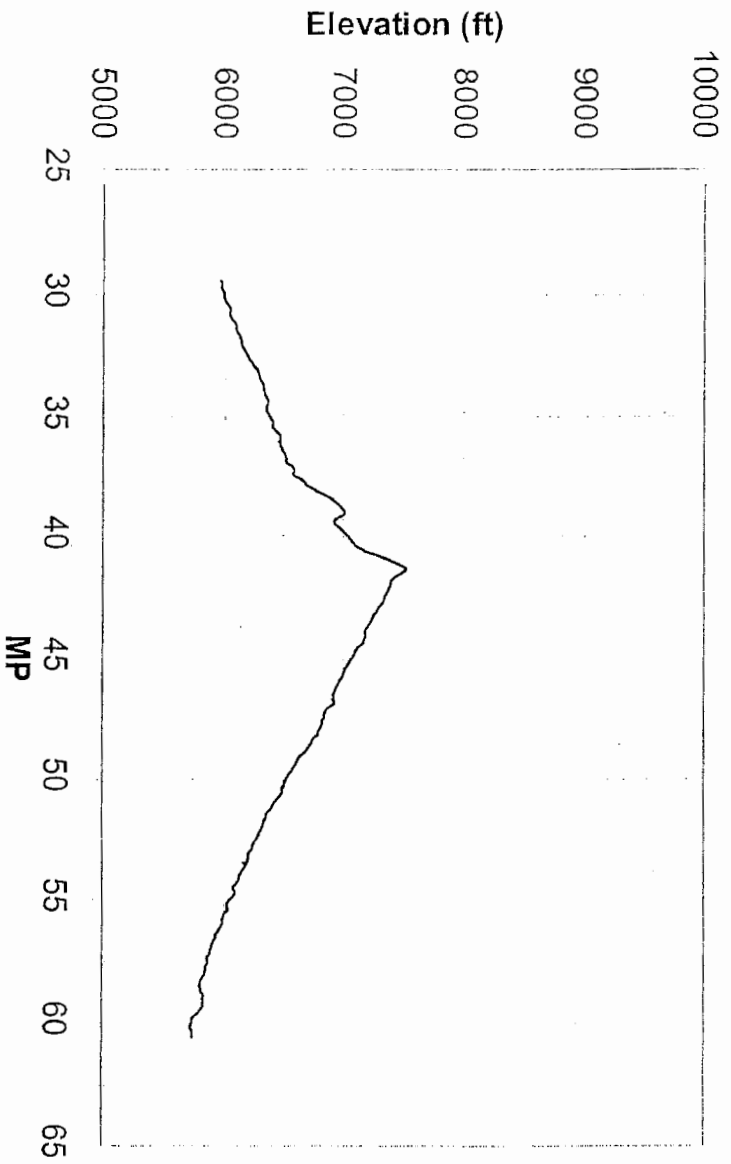
Vertical Alignment

Section 2 (MP 13.68 - 29.45)



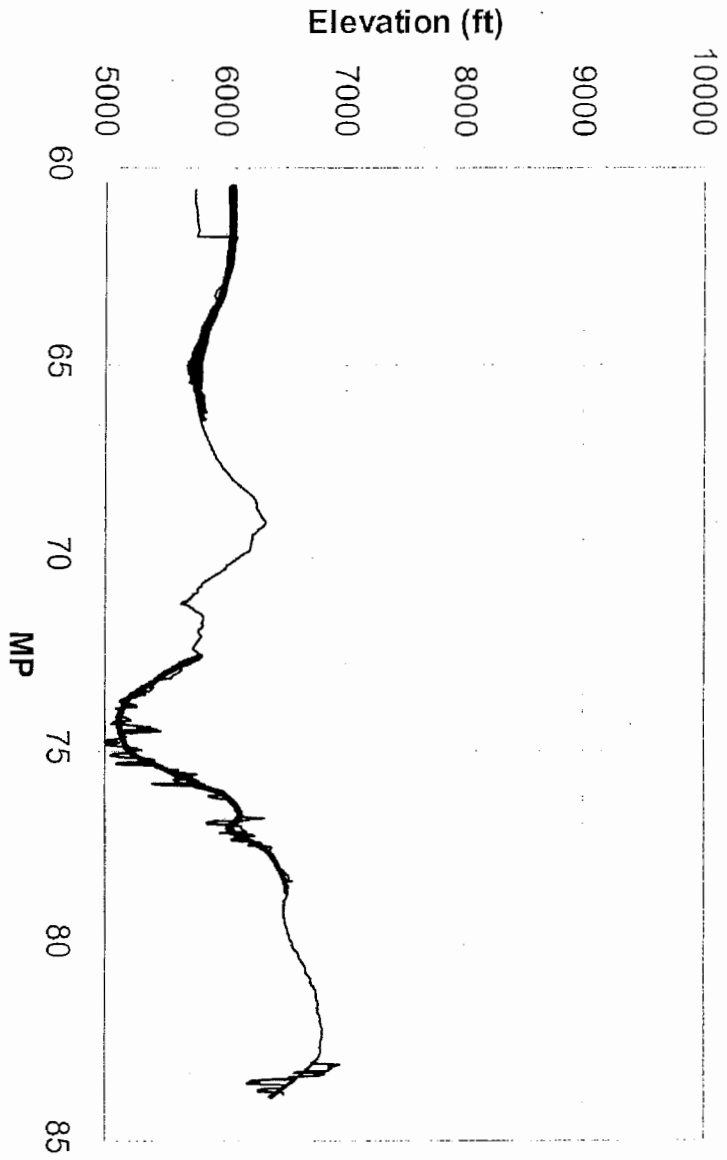
Vertical Alignment

Section 3 (MP 29.45 - 60.58)

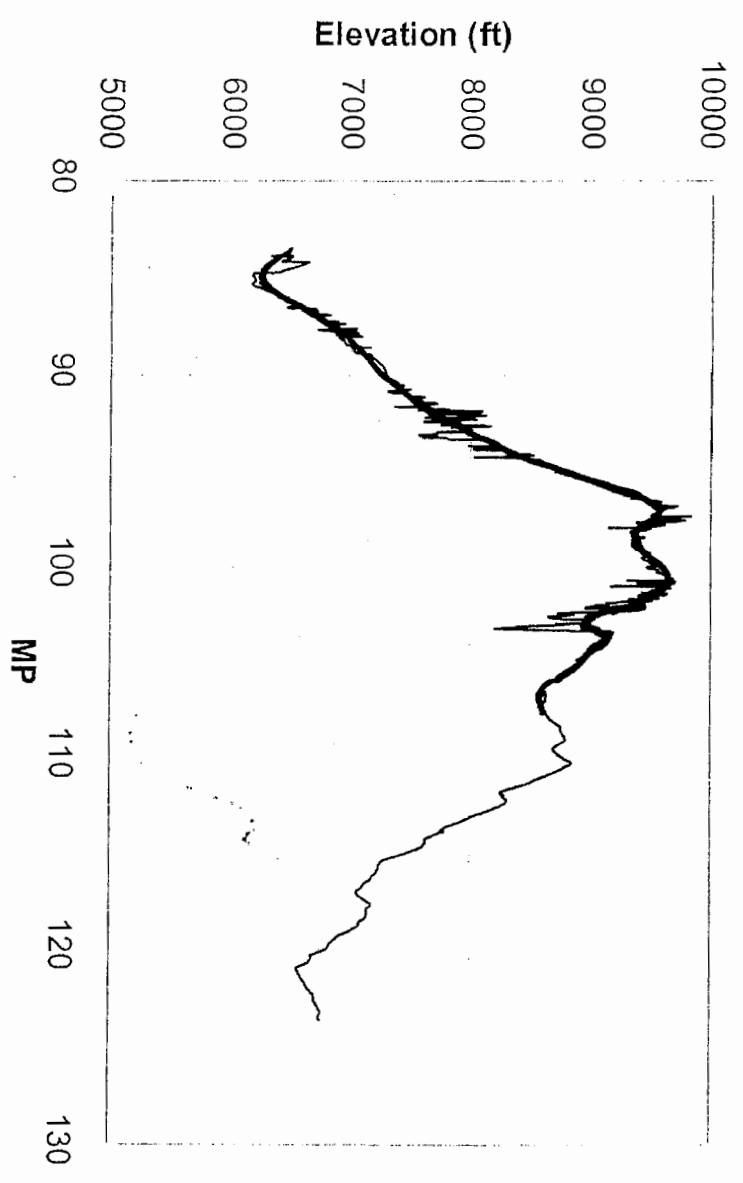


Vertical Alignment

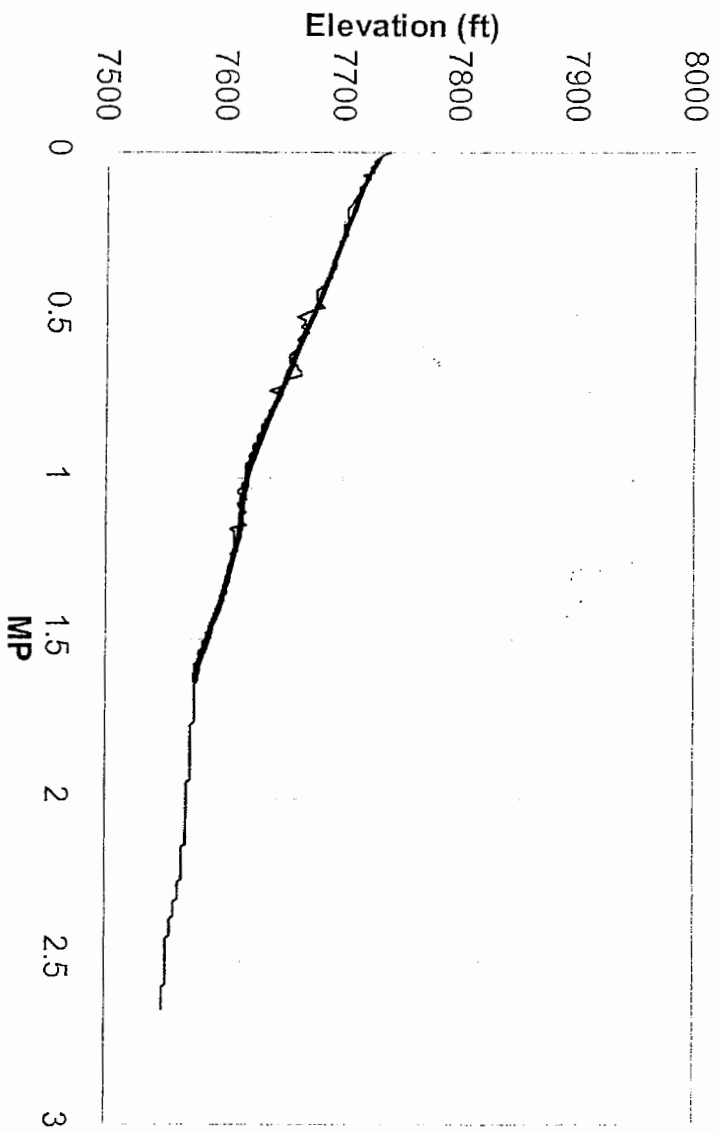
Section 4 (MP 60.58 - 83.82)



Vertical Alignment
Section 5 (MP 83.82 - 123.67)




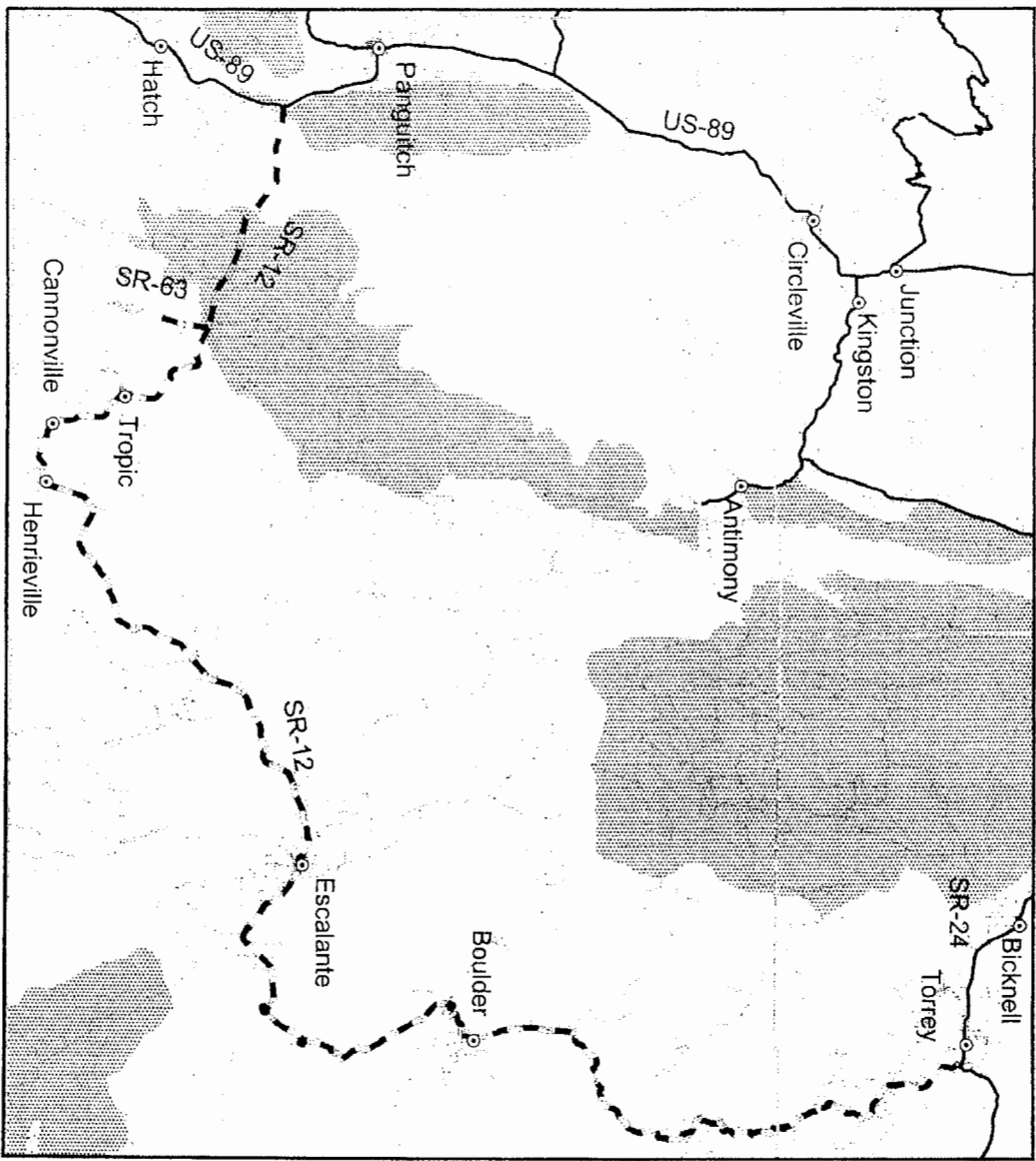
Vertical Alignment
Section 6 (SR-63 MP 0.00 - 2.65)



Appendix G
Wildlife Habitat maps

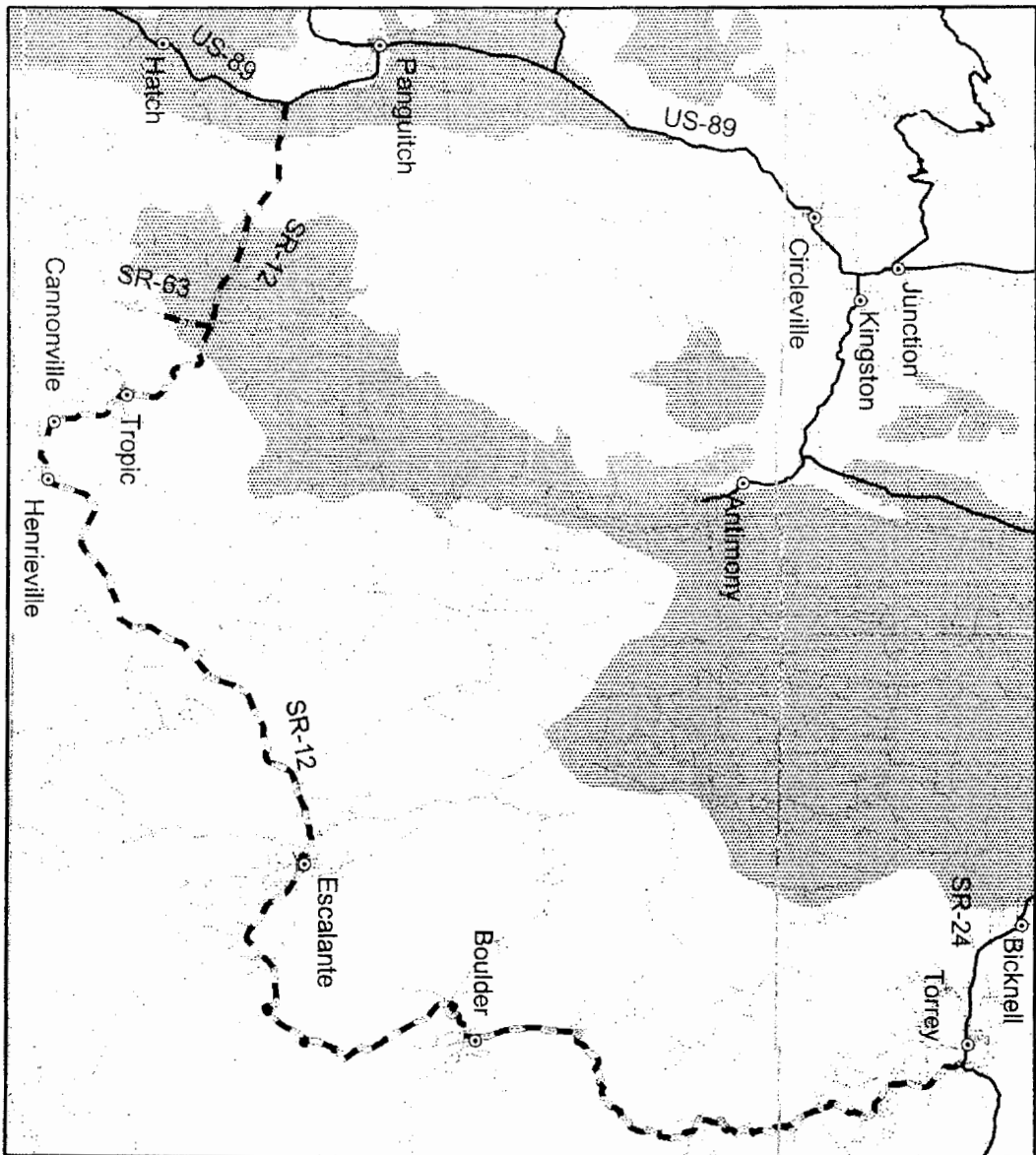
Prong horn

 Habitat



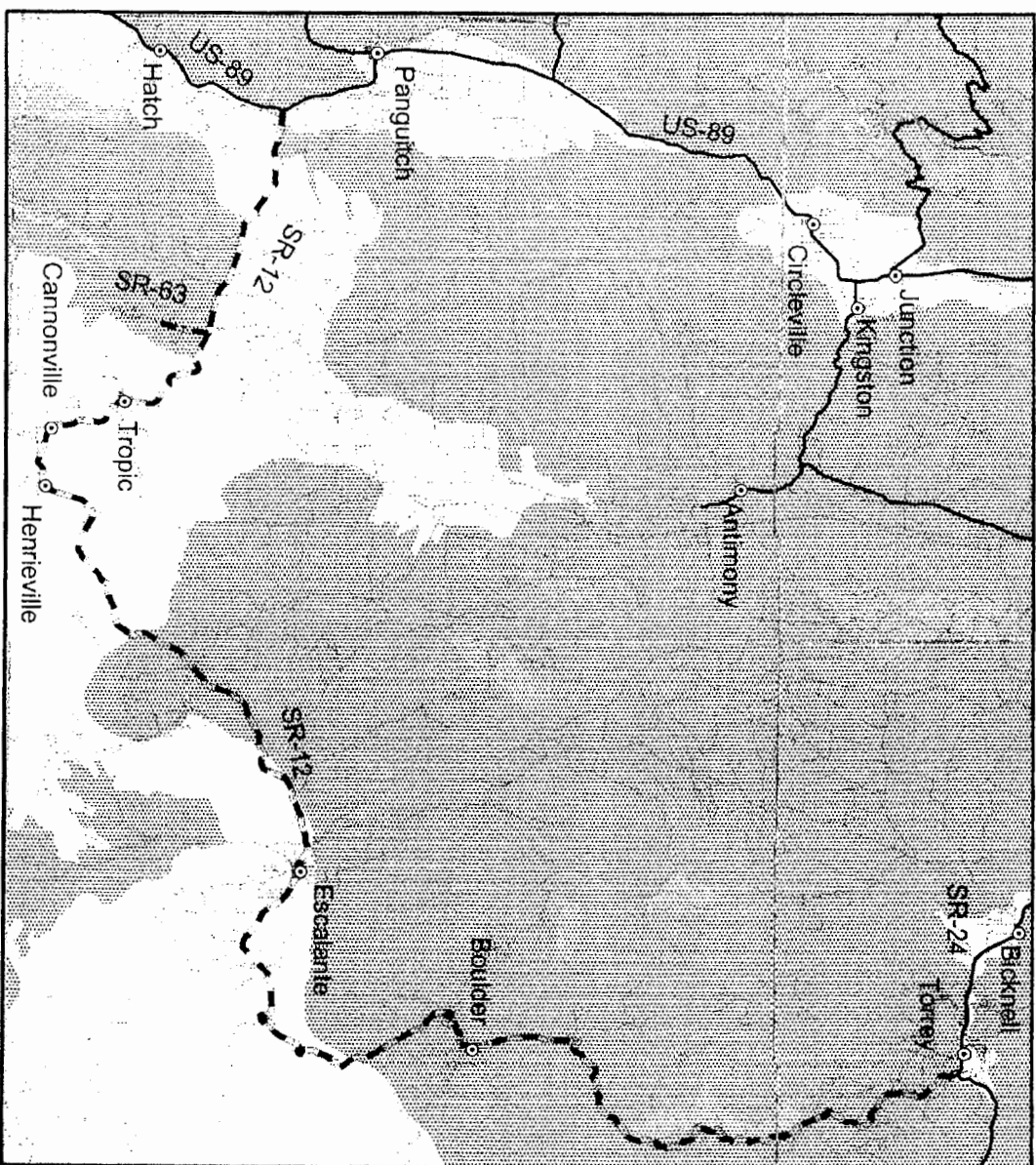
Sage Grouse

Brood
Winter



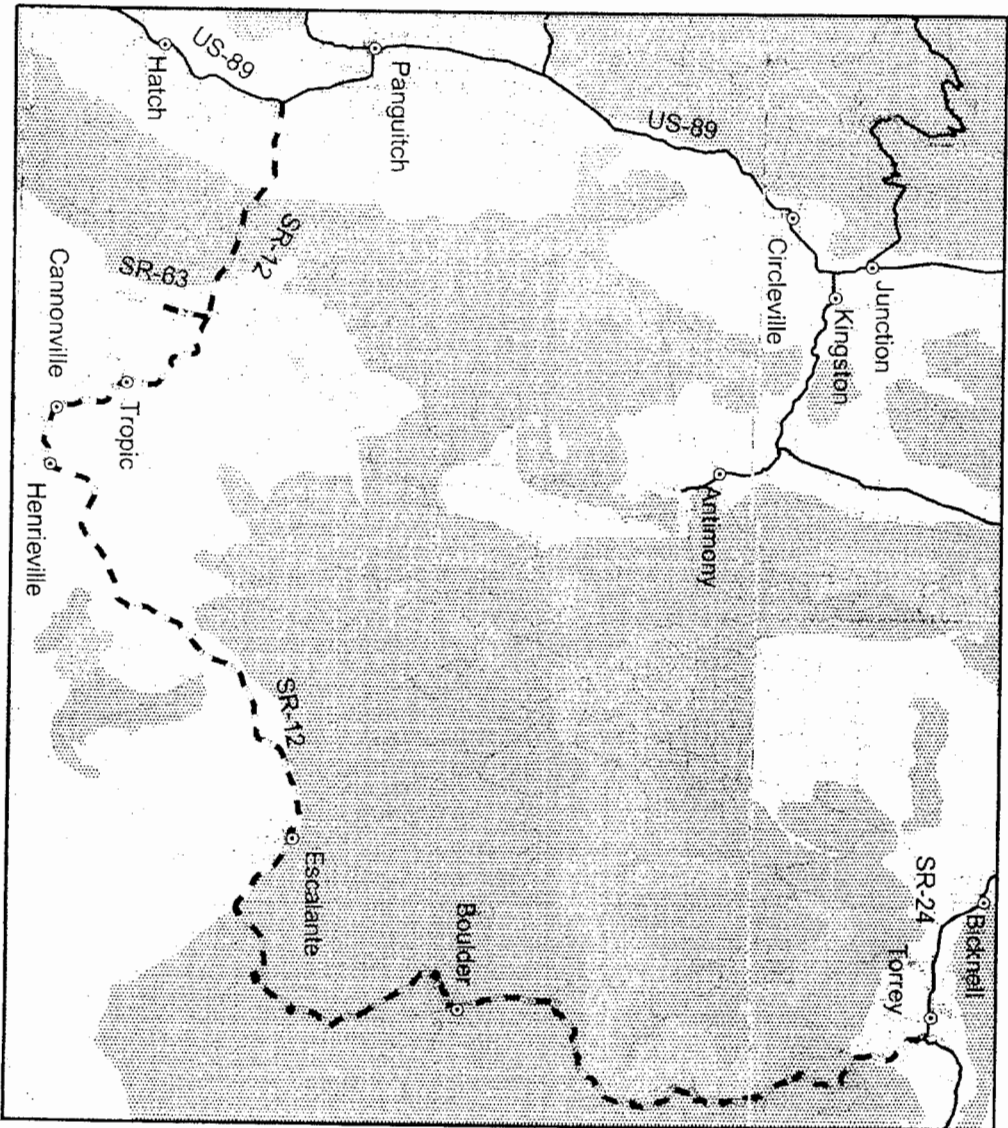
Mule Deer

Fawning
Habitat




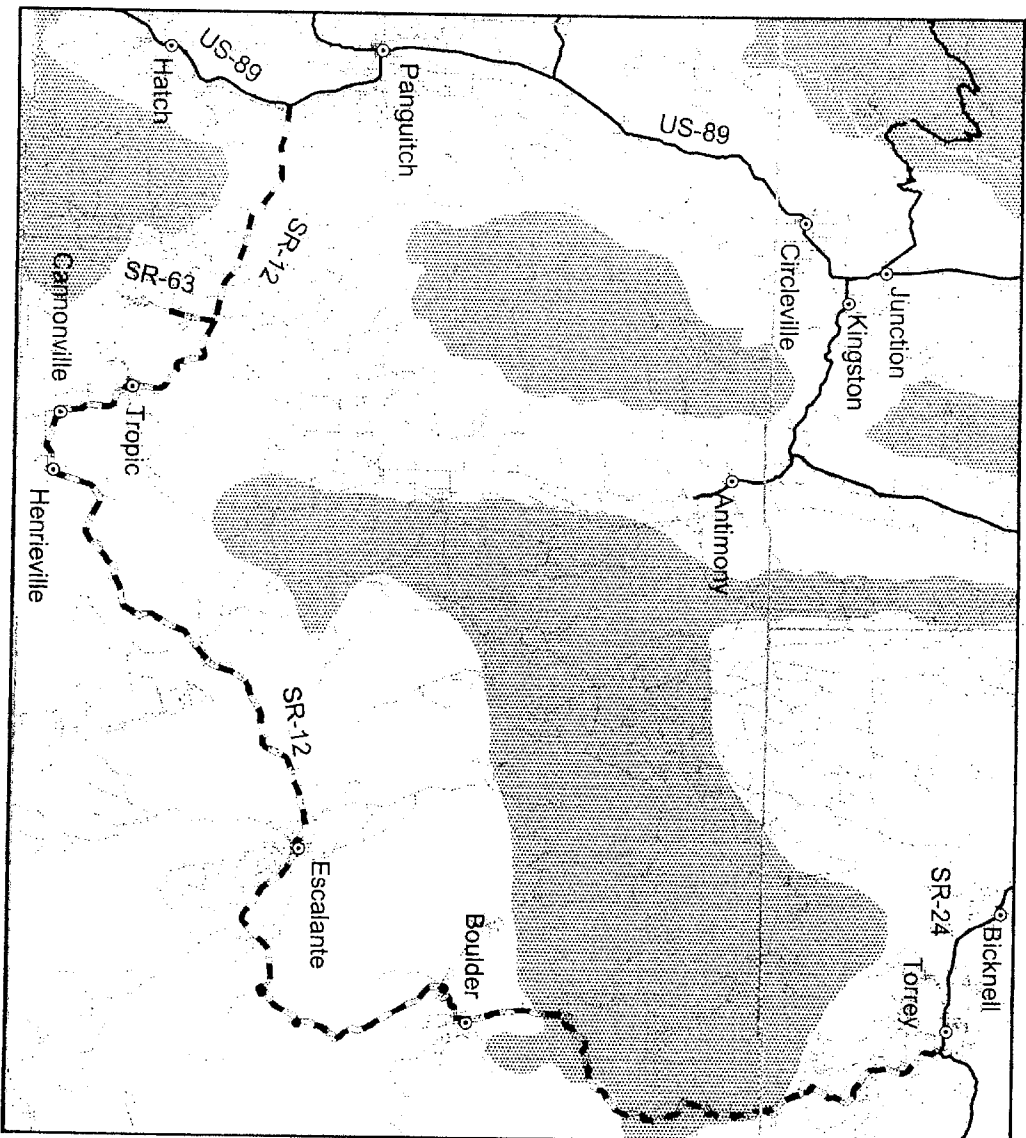
Elk

Elk Calving
Elk Habitat



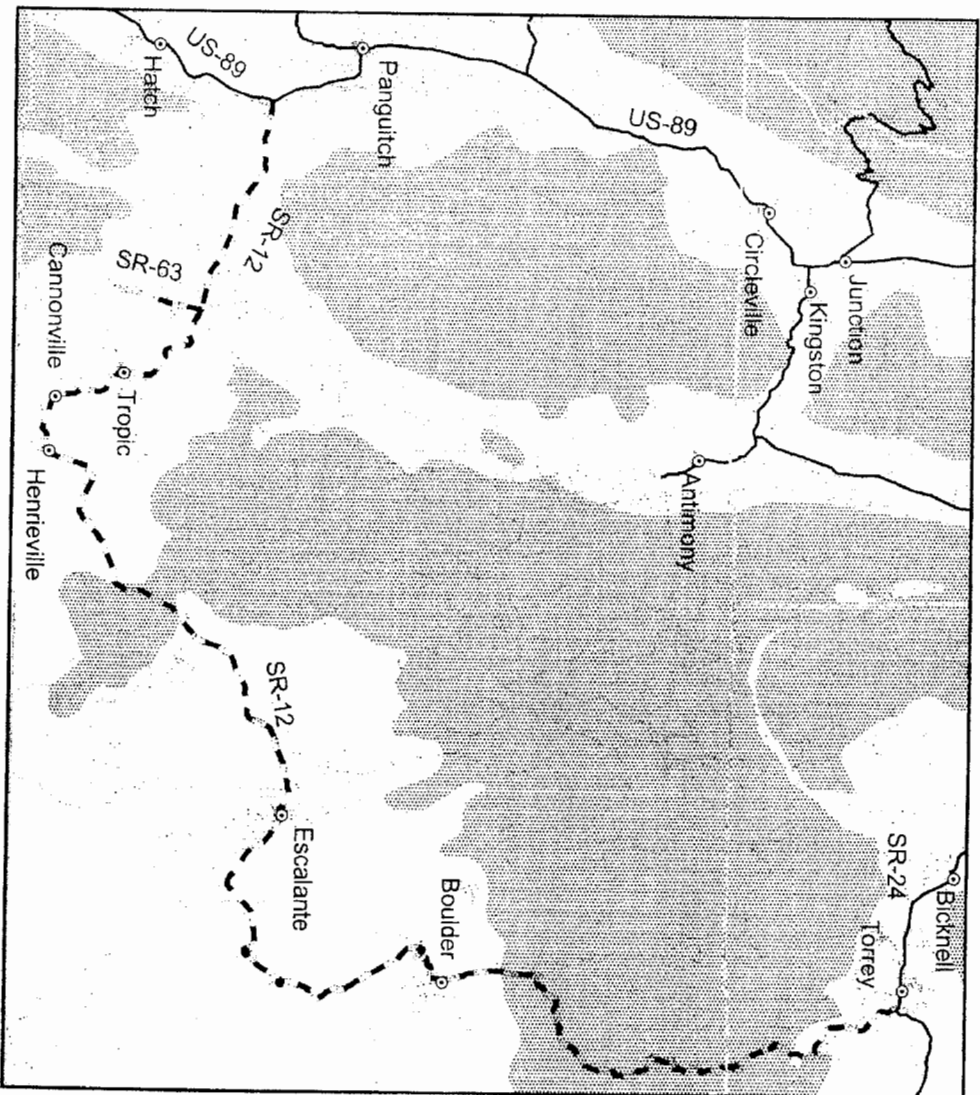
Blue Grouse

 Habitat



Black Bear

Habitat



Appendix H
Bryce Canyon National Park/State of Utah MOU and Quit Claim Deed

UNITED STATES
DEPARTMENT OF THE INTERIOR
MEMORANDUM OF UNDERSTANDING

Between
STATE ROAD COMMISSION OF UTAH
and
NATIONAL PARK SERVICE

THIS MEMORANDUM expresses the understanding entered into
as of this 4th day of September 1959, between the State Road Commission of Utah herein after called the "State" and the National Park Service, Department of the Interior, hereinafter called the "Park Service" as follows:

STATEMENT OF CIRCUMSTANCES AND PURPOSES

WHEREAS, the State wishes to make certain improvements in its State Road System and more particularly a portion known as State Route 54.

AND WHEREAS, a portion of this route 54 lies in the northeast portion of Bryce Canyon National Park.

AND WHEREAS, the State has asked the Park Service to participate in the reconstruction and realignment of the portion of the said State Route 54 lying inside the boundaries of Bryce Canyon National Park

AND WHEREAS, the Park Service cannot spend its appropriated funds on this road since the road was in existence prior to the enlargement of the park boundaries by Proclamation Number 1952 of May 4, 1931 (47 Stat. 2455) and the right-of-way is therefore owned by the State.

Agreement

NOW THEREFORE, it is mutually agreed that State Route 54 lying inside the northeast portion of Bryce Canyon National Park will be improved, realigned or reconstructed under the following conditions:

1. The State Road Commission of Utah agrees to transfer by quitclaim deed all interests in or title to the right-of-way of Route 54 inside the boundaries of Bryce Canyon National Park to the United States of America.

2. The National Park Service agrees to program the realignment and reconstruction of State Route 54 within the boundaries

COPY

of Bryce Canyon National Park for the 1960 calendar year subject to appropriation of the necessary funds.

3. The State Road Commission of Utah agrees to assume all maintenance of Highway 54, inside the park boundaries, after reconstruction by the National Park Service.

4. The National Park Service, in consideration of the transfer of the right-of-way interests by the State, guarantees that State Route No. 54 inside the boundaries of Bryce Canyon in the northeast portion of the Park will always remain toll free.

It is further understood and agreed that the State shall continue maintenance of State Route 54 until such time as reconstruction is completed by the Park Service.

If the Park Service should fail to obtain the necessary appropriation to reconstruct Route 54 within a five-year period from the date of this instrument, any right-of-way granted to the Park Service will revert to the State.

The expenditure of funds required for the Park Service to carry out its part of this memorandum of understanding is contingent upon the Congress making the necessary appropriation.

No Member of or Delegate to Congress, or Resident Commissioner, Officer, agent or employee of the Department of the Interior shall be admitted to share any part of this agreement or any benefit that may arise herefrom, but this provision shall not be construed to extend to this agreement if made with a corporation for its general benefit.

NATIONAL PARK SERVICE
DEPARTMENT OF THE INTERIOR

By /s/ Millory A. Tolson
Acting Director

STATE ROAD COMMISSION OF UTAH

By /s/ Elmo R. Morgan
Director of Highways

COPY

QUITCLAIM DEED

The STATE ROAD COMMISSION OF UTAH, grantor, hereby quitclaims to the NATIONAL PARKS SERVICE, DEPARTMENT OF THE INTERIOR, for good and sufficient consideration, the following described tract of land in Garfield County, State of Utah, to-wit:

Property known as State Route U-54 within the Bryce Canyon National Park situated in the SE $\frac{1}{4}$ of Section 8, in the S $\frac{1}{2}$ of Section 9 and unsurveyed land in T. 36 S., R. 3 W., S.L.M. in Garfield County, State of Utah,

Said tract of land is contained within two side lines parallel to and at distances of 33.0 ft. northeasterly and 33.0 ft. southwesterly from the center line of highway known as State Project No. 1594. Said center line is described as follows:

Beginning at the intersection of a westerly boundary line of the Powell National Forest (Bryce Canyon National Park) and said center line at Engineer's Station 51+82, which point of beginning is approximately 2225 ft. north along said west boundary line from the S $\frac{1}{4}$ corner of said Section 8; thence Southeasterly 123.3 ft. along the arc of a 2° 00' curve to the right (Note: Tangent to said curve at its point of beginning bears S. 62° 30' E.); thence S. 60° 02' E. 1464.4 ft. to a point of tangency with a 20° 00' curve to the right; thence Southeasterly 221.7 ft. along the arc of said curve; thence S. 46° 44' E. 2.1 ft. to a point of tangency with a 20° 00' curve to the left; thence Southeasterly 191.6 ft. along the arc of said curve; thence S. 85° 03' E. 28.0 ft. to a point of tangency with a 200.0 ft. radius curve to the right; thence 179.3 ft. along the arc of said curve to a point of reverse curve with a 200.0 ft. radius curve to the left; thence Southeasterly 222.2 ft. along the arc of said curve; thence N. 82° 40' E. 10.0 ft. to a point of tangency with a 170.0 ft. radius curve to the right; thence Southeasterly 192.6 ft. along the arc of said curve; thence S. 32° 25' E. 76.7 ft. to a point of tangency with a 250.0 ft. radius curve to the left; thence Southeasterly 122.7 ft. along the arc of said curve; thence S. 60° 32' E. 97.1 ft. to a point of tangency with a 10° 00' curve to the left; thence Southeasterly 214.2 ft. along the arc of said curve; thence S. 81° 57' E. 0.9 ft. to a point of tangency with a 15° 00' curve to the right; thence Easterly 121.1 ft. along the arc of said curve to Engineer's Station 84+49.9 Back, which equals Engineer's Station 84+87.2 Ahead; thence S. 63° 47' E. Back, which equals S. 63° 37' E. Ahead 59.4 ft. to a point of tangency with a 10° 00' curve to the left; thence Southeasterly 323.3 ft. along the arc of said curve to a point of compound curve with a 203.6 ft. radius curve to the left; thence Easterly 118.5 ft. along the arc of said curve; thence N. 50° 39' E. 153.9 ft. to a point of tangency with a 20° 00' curve to the right; thence Northeasterly 273.2 ft. along the arc of said curve; thence S. 74° 43' E. 126.2 ft. to a point of tangency with a 16° 00' curve to the left; thence Easterly 150.0 ft. along the arc of said curve to a point of compound curve with a 607.0 ft. radius curve to the left; thence Easterly 214.3 ft. along the arc of said curve; thence N. 61° 01' E. 199.8 ft. to a point of tangency with a 10° 00' curve to the right; thence Northeasterly 200.0 ft. along the arc of said curve; thence N. 81° 01' E. 395.8 ft. to a point of tangency with a 10° 00' curve to the left; thence Easterly 128.0 ft. along the arc of said curve; thence N. 68° 13' E. 1465.0 ft. to a point of tangency with a 16° 00' curve to the right; thence Easterly 476.0 ft. along the arc of said curve; thence S. 33° 37' E. 629.4 ft. to a point of tangency with a 10° 00' curve to the right; thence Southeasterly 226.7 ft. along the arc of said curve; thence S. 12° 57' E. 628.7 ft. to a point of tangency with a 6° 00' curve to the right; thence Southerly 420.0 ft. along the arc of said curve; thence S. 12° 15' W. 303.7 ft. to a point of tangency

with a 10° 00' curve to the left; thence Southerly 370.0 ft. along the arc of said curve; thence S. 24° 45' E. 754.4 ft. to a point of tangency with a 14° 00' curve to the right; thence Southeasterly 273.6 ft. along the arc of said curve; thence S. 13° 35' W. 899.3 ft. to a point of tangency with a 250.0 ft. radius curve to the left; thence Southerly 213.3 ft., more or less, along the arc of said curve to Engineer's Station 174+89.1; thence S. 35° 21' E. 204.4 ft. to a point of tangency with a 4° 00' curve to the right; thence Southeasterly 112.9 ft. along the arc of said curve; thence S. 39° 52' E. 632.9 ft. to a point of tangency with a 5° 00' curve to the right; thence Southeasterly 1020.0 ft. along the arc of said curve to Engineer's Station 194+59.3 Back, which equals Engineer's Station 194+71.0 Ahead; thence S. 11° 08' W. 763.0 ft. to a point of tangency with a 200.0 ft. radius curve to the right; thence Southeasterly 197.8 ft. along the arc of said curve to Engineer's Station 204+32.0, containing 23.2 acres, more or less.

Subject to a perpetual easement in the public to the right of way of said State Route U-54, for roadway purposes, to be maintained, controlled, and regulated by the State of Utah, as a part of the State highway system unless and until otherwise provided by State law.

WITNESS the hand of said grantor this 20th day of July, 1960.

STATE ROAD COMMISSION OF UTAH

By C. Taylor Burton
Director

ATTEST:

Clarence J. Allred
Secretary

STATE OF UTAH)
: ss.
COUNTY OF SALT LAKE)

On the 20 day of July, 1960, personally appeared before me, C. Taylor Burton, who by me duly sworn, did say that he is the Director of the State Road Commission of Utah, and that said instrument was signed in behalf of said agency by authority of law and resolution of the State Road Commissioners, and said C. Taylor Burton acknowledged to me that said agency executed the same.

Robert O. Crockett
Notary Public
Residing at Salt Lake City, Utah

My Commission expires:

January 26, 1964

Appendix I
Summary of Public Comments

State Highway 12

Beef, Bikes, Mutton and Motorhomes

How Do You Build For Everyone?



We want your two-cents worth

Highway 12 must serve the growing needs of local residents, seasonal tourists, and occasional visitors. As time passes, this narrow strip of State Highway will become more and more crowded.

Because several governing agencies want to plan the best possible transportation corridor, we want to hear what you have to say about it. Please come and give us your two cents worth.

Objective: Listen to your ideas on the transportation needs and issues of State Route 12 from Panguitch to Torrey.

Objective: Obtain information on local history, wildlife, natural values, agricultural interests, and additional information about the Highway 12 corridor.

Objective: Create a transportation plan for the future.

Public comment open houses

Escalante November 2, 2000 4:30-6:15 p.m.
Escalante Town Hall

Cannonville November 2, 2000 7:30-9 p.m.
Cannonville Town Hall

Boulder November 9, 2000 4-6 p.m.
Boulder Town Hall

Bicknell November 9, 2000 7:30-9 p.m.
Bicknell Town Hall

Participating Agencies

- Utah Department of Transportation
- U.S. Forest Service
- Grand Staircase-Escalante Monument
- Bryce Canyon
- Capitol Reef National Park
- Tropic
- Cannonville
- Henrieville
- Escalante
- Boulder
- Wayne County
- Garfield County
- Wayne and Garfield Travel Councils
- The Utah Travel Council
- Utah Division of Wildlife Resources
- Division of Parks and Recreation
- Federal Highway Administration

Written comments accepted through November 25, 2000

UDOT, Attention Randall Taylor, 1345 S. 350 West, Richfield, UT 84701 or E-mail to rtaylor1@dot.state.ut.us

**Comments Recorded on Maps at
SR-12 Public Open Houses
November 2, 2000 & November 9, 2000**

Section 1: Jct US-89 to Jct SR-63 (RP 0.00 - 13.68)

RP 0-13 - Utah Forest Products has large truck traffic making 50-100 trips per week. This traffic is seasonal and is based on market demand.

RP 0.11 - This bridge needs fixing.

RP 0.3 - Accident Area! Needs to have a turn-out lane.

RP 13.5 - Need Larger signs for Bryce Canyon

Section 2: Jct SR-63 to Henrieville (East Limits) (RP 13.68 - 29.45)

RP 13-29 -Utah Forest Products has large truck traffic making 50-100 trips per week. This traffic is seasonal and is based on market demand.

RP 17.5 - Possible interpretation sites: "the dump" and the irrigation ditch that was dug from the Sevier River to the edge of the red cliffs. Water then is gathered and put in irrigation ditches to water the fields of Tropic.

RP 22.5-23 - Deer Crossing Area

RP 23.5-24.5 -Deer Crossing Area

RP 25.3 - Speed limit signs need to be moved north of residences

RP 25.5 - The intersection here that provides access to a 100-space KOA and needs to be improved.

RP 26 - Move the 60 MPH/40 MPH speed limit signs to the east end of the bridge...and further away from town.

RP 27-29 -The road needs to be wider here.

RP 29.4 - Line of sight problems on the turn at the east end of Henrieville.

Note: All RP locations are given in accumulated mileage and are approximate.

2/4
Section 3: Henrieville (East Limits) to Escalante (East Limits) (RP 29.45 - 60.58)

RP 29-60 - Utah Forest Products has large truck traffic making 50-100 trips per week. This traffic is seasonal and is based on market demand.

RP 29.5-35 - Henrieville waterline is along the road through here.

RP 35.5 - Henrieville CCC camp location...could have pull-out interpretation

RP 38-39 - Need a passing lane through this area.

RP 41 - "The Blues" - Curves towards the top need to be straightened out, or a large "Danger" sign needs to be put up. The top curve is a blind curve and needs to have increased visibility. There was a motorcycle death here in Summer 2000. "I was passed on this curve while going uphill while following several autos—and a truck!"

RP 41 - Dumpsters are needed here. There is lots of garbage everywhere.

RP 45 - Monument sign here does not meet UDOT standards...curve below grade, etc. (Check with Roger Scovil)

RP 45.5 - Maybe move Monument sign to this point on straight-of-way and on grade and on boundary consistent with Forest Service boundary sign.

RP 48-58 - Need bicycle lanes through this area, either detached or on both sides of the road.

RP 59 - People come over the top of the hill and have NO idea there is a town. Problems with "windshield blindness."

RP 59 - Please put a distance sign below the speed limit sign, i.e.

800 feet

RP 59.5 - When will the old UDOT road shed be available for development? Can clean-up be accelerated? (NE⁴ NE⁴, Section 18)

RP 59-60 - There are now 4 lanes through Escalante. We want to have a left-turn lane created & the roadway reduced to two lanes through town.

RP 59.9 - More lighting is needed at the Center Street/Main Street intersection. People need to be able to see tourists and oncoming traffic.

RP 60 - People speed up going east out of town.

Note: All RP locations are given in accumulated mileage and are approximate.

Section 4: Escalante (East Limits) to Boulder (West Limits) (RP 60.58 - 83.82)

RP 60.7 - We would like neon (green-yellow) signs for the two schools (Elementary and High School). Also, there should be crosswalks painted from the High School to the service station.

RP 60-63 -Major deer crossing area.

RP 60-80 -Cattle driveway from Boulder to Escalante.

RP 61 - Please put a distance sign below the speed limit sign, i.e. Also, there is a historic marker (a rock with a bronze plaque) for the Boulder Mail Trail located outside the southeast corner of the cemetery.

800 feet

RP 62 - Need a cattle guard here...east of Escalante.

RP 60-63 -Utah Forest Products has large truck traffic making 50-100 trips per week. This traffic is seasonal and is based on market demand.

RP 64.5 - Fencing and cattle guard are needed here.

RP 68 - Old sheep pens (south of road), cream cellar (north of road), and old road to Boulder (parallel to Hwy 12 north of the road) between RP 68 & 73 (just west of Boynton Lookout...these are possible interpretive sites.

RP 73 - Keep CCC rock work intact just west of Boynton Lookout. The CCC work on Hwy 12 is a tremendous opportunity for historic & other interpretation.

RP 74 - Outside of curve (from Boynton Lookout going down to the Escalante River) needs barriers that blend in with the natural red rocks. Do not make it a parking or overlook area to respect the privacy of land owners at Calf Creek Ranch.

RP 74 - Fence right-of-way south of gate for stock driveway. Also, there needs to be a cattle guard on the approach to Calf Creek Ranch (near the Escalante River).

RP 74.5 - Keep CCC rock work intact.

RP 74.3-75.5 -This stretch of road is a dump for RV's. We often smell sewage. We recommend a "No dumping" sign (with fine).

RP 74.3-83.8 -This section of road needs lots of passing lanes with signage.

RP 76.5 - Need "Ice" signs in both directions. The road is in the shade of huge rocks and it gets really icy.

RP 77-78 -This area is where the "camel backs" are. It needs a sign to inform travelers of corkscrew turn. (There may be a sign here now.)

RP 79 - Move the Hogsback scenic overlook to the saddle 1/4-mile to the south.

RP 79.5 - Present location for Hogsback overlook is a safety hazard.

Note: All RP locations are given in accumulated mileage and are approximate.

- RP 80 - The newly asphalted pull-outs on the Hogsback are very unsightly. The Hogsback is such as exceptionally scenic route & needs to be treated with some sensitive design, etc. Suggest a very low-key approach, but it has to be effective. Also, the old cedar road side posts along here are unique.

Section 5: Boulder (West INCL) to Jct SR-24 (RP 83.82 - 123.67)

- RP 83 - Need slower speed signs approaching Boulder.
- RP 85.5 - Drainage ditch alongside slickrock was sprayed/stabilized with tar, but the tar got sprayed along the base of the rock. This is unnecessary and spoils the scenic quality.
- RP 86 - There is a blind corner @ the store's west exit. West-bound traffic needs to know that there will be traffic exiting onto Highway 12. East-bound traffic could be slowed down after coming off dump road & coming into town.
- RP 86.9 - The Burr Trail junction needs coordination of signage, including local business "logo sign" facility. (The Boulder Planning Commission has been pushing this--& getting nowhere--for 2 years!) Also, the loose gravel was never cleared away after chip sealing. It is a potential accident zone.
- RP 87.5 - There needs to be a turn lane into Anasazi State Park.
- RP 88 - Need slower speed signs approaching Boulder.
- RP 95 - This point needs a trail head for winter cross-country skiing. Also, please plow the existing turnout.
- RP 100 - There are a lot a accidents here in inclement weather. (Summer -- hail, winter -- snow)
- RP 102.5 - This point needs a winter trail head for cross-country skiing.
- RP 105 - This point needs a winter trail head for cross-country skiing.
- RP 105-114 - Possible stock trail?
- RP 107 - Need to plow road (left) for winter recreation.
- RP 111 - Very icy in the shadows in the winter.
- RP 112 - Wrong "super" on road here.
- RP 118 - Wrong "super" on curve here.
- RP 121-122 - Dwight Williams requested fencing this area near the Fremont River to help keep his cattle off the roadway.
- RP 122.5 - This curve needs attention.

Note: All RP locations are given in accumulated mileage and are approximate.

Comments Received at SR-12 Public Open Houses November 2, 2000 & November 9, 2000

Section 1: Jct US-89 to Jct SR-63 (RP 0.00 - 13.68)

- Allow for large truck traffic (US-89 to Escalante) 50-100 trips per week
–*Richard Costigan, Escalante resident*
- Junction Hwy 89 & 12 - need more warning, better marking.
- Bridge over Sevier River just east of Hwy 89/12 junction needs to be replaced.
–*A.C. & Lila H. Hammer, Cannonville residents*
- Street lights—possibly solar—at the intersection of Hwy 12 & 89. It's very difficult to negotiate in the dark.
–*Harriet Priska, Escalante resident/business owner*
- Need big signs advertising Bryce Canyon National Park and the new Monument.
- A passing lane is needed on the east end of Red Canyon.
–*Clare Ramsay, Garfield County Commissioner/Tropic resident*
- Enhance bike space, at least from Junction 89/12 to Bryce Canyon.
- Review speed by Tropic and south of Tropic for safety.
- Address drainage and parking issues along Highway 12 in Tropic.
- Possible extension of natural gas from 12 & 89 Junction? Coordinate with construction.
–*A. Jean Seiler, Tropic Town Mayor*
- We hope that the Red Canyon Visitor Center will be integrated into the Plan as a focal point for introducing travelers to the many recreational and educational opportunities along SR-12. We want the Center to represent the rich cultural, historical, and natural history features of SR-12, supported by many partners from both the public and private sectors.
- The Powell Ranger District has some good ideas for specific improvements and safety features along the route from US-89 to the entry to Bryce Canyon. I would recommend a field trip with District staff over this portion of SR-12 and possibly with our engineers over all the portions of the route that cross the National Forest in order to discuss specific features.
–*Mary Wagner, Forest Supervisor, Dixie National Forest*
- Many people on SR-12 miss the Bryce Canyon Turnoff because of the small sign. Some go into Tropic before realizing that they had missed the turnoff. Also, some people coming out of Bryce Canyon on SR-63 fail to stop before turning onto SR-

12, possibly because they assume everyone on SR-12 is turning to go into Bryce Canyon.

- There are too many bikes on SR-12, particularly the southern half of the route by Bryce Canyon.
- We need a light at the intersection of SR-12 and SR-89
- We need a light, more signs and better safety at the intersection of SR-63, into Bryce Canyon. and SR-12. Tourists assume that everyone is going to Bryce and they cut in front of other traffic that is not necessarily turning. Paint better lines on the intersection and lane merging areas.
- The small signs to Bryce need to be larger.

—verbal comments given in Cannonville

- The intersection of SR-89 and SR-12 needs to be lit to enhance safety and visibility.
- There are better alternatives than light for the SR 89 / SR-12 intersection such as paint and better signage. —Erica Walz

—verbal comments given in Escalante meeting

Section 2: Jct SR-63 to Henrieville (RP 13.68 - 29.45)

- Allow for large truck traffic (US-89 to Escalante) 50-100 trips per week
–*Richard Costigan, Escalante resident*
- We do need passing lanes at intervals particularly before hills such as going up the dump to the top of Bryce Canyon from Tropic.
–*M.V. Crawford, Escalante resident*
- Bicycles are an ongoing danger to both riders and drivers. We need bicycle trails! We understand one through Red Canyon is in the works, but if bicycles are going to be allowed on top and down the Dump—well all the way along Hwy 12, at least as far as Cannonville—bicycle trails are a must.
–*A.C. & Lila H. Hammer, Cannonville residents*
- There is a desperate need for a passing lane through Bryce Canyon National Park up the "dump road."
–*Clare Ramsay, Garfield County Commissioner/Tropic resident*
- We want to look out for the interests of the cattleman. We want to keep them on the road and retain the rustic rural atmosphere of Cannonville and the SR-12 corridor.
- Move the speed limit signs back away from town on each side of Cannonville. It would be better to slow the traffic down sooner coming into town and to speed it up later going out of town.
–*verbal comments given in Cannonville meeting*

Section 3: Henrieville to Escalante (East City Limits) (RP 29.45 - 60.58)

- Left turn lanes through Escalante (now 4 lanes)
- Allow for large truck traffic (US-89 to Escalante) 50-100 trips per week
–*Richard Costigan, Escalante resident*
- The road over the Blues definitely needs to be changed for safety.
- I am not for a two-lane road through the main street of [Escalante]. There is always someone in a tractor, car, or truck going very slowly. It is nice to be able to pass:
–*M.V. Crawford, Escalante resident*
- Straighten the Blues out. Push a road straight over the top, eliminating the big curve at the top. This is a dangerous curve, and there have been bad accidents (with deaths) on it
–*Richard Crawford, Escalante resident*
- The turn-off for Escalante Petrified Forest State Park is a dangerous intersection. It is most likely a matter of time before a serious accident occurs at the State Park turn-off, so I hope you will consider these suggestions very seriously. The intersection is difficult for someone unfamiliar with the area to find, especially for foreign tourists. Many tourists drive very slowly after seeing the first sign (1 mile), hesitating and not knowing when to turn off until the last moment. Some don't even see or recognize the sign and stop suddenly at the turn-off. The result is that other car and truck traffic driving at the accustomed 50 or 55 MPH often has to brake quickly when all of a sudden a stopped or slow driving RV appears before them. Sometimes RV's don't even use their turn signals because they see the turn-off when they are already on top of it. This could result in faster traffic trying to pass just when an RV starts to turn across the highway.
- Wouldn't it be beneficial to lower the speed limit to maybe 40 on both sides of the State Park turn-off? Even in the short ½-mile stretch between Escalante and the Park turn-off, the speed limit goes up from 40 to 50. Could it be kept at 40 till after the turn-off?
–*David Delthony, Escalante resident*
- Four lanes are needed near the Escalante City Park (500 West). There is only a small portion of the road which narrows to two lanes there.
- A warning sign "Two School Zones Ahead" is needed near the Cemetery and at 100 East.
- Street lighting is needed all the way to the High School. (Tall aluminum poles with overhead lights like freeway are preferred.)
- Keep wide sidewalks between 100 West and Center. Do not take out concrete for trees, rather use pots with plants so roots do not grow underneath the concrete.
- Coordinate with Grand Staircase Monument people or Garfield County to mark the Smokey Mountain Road at 500 West turnout with warning signs about conditions and mileage.

- The entire length of the highway from Henrieville to Boulder needs an emergency lane. If not asphalt, gravel edges where cars can take care of emergencies. There is no place for passing, nor for bicycles. Bicycles should be warned to ride at their own risk, as the road is so narrow or restricted to the edges beyond the white lines. However, in many places the asphalt is not wide enough for the white edge line.
- Proper bar-ditching for draining water needs to be added from 5-Mile Turn to Pet's Hollow and near the Long Ledge in Upper Valley to keep flooding off the highway surface.
- Because the road by Spencer's Ranch (mile marker 43) is so narrow, cut on the south by the wash, and on the north by the ledge, it would be nice if the new homes on the north could be accessed with a frontage road or with one approach.
- ELK and DEER signs need to be placed east of The Blues near the turn south of Dead Mare Wash and DEER signs near Tunnel Hill.
- Tom and Gail Hill need a stop sign on their approach. Limit the number of approaches by using a frontage road through Spencer's Ranch area.
- Need water drainage along "the Henrieville Rapids" to prevent flooding.
- Mark the Pet's Hollow Turnoff with signs indicating condition and mileage.
- The road is narrow near Liston's Ranch on the straight strip between Dead Mare Wash and the old Green Oil Tank platform. Needs a Passing lane and better approaches to South Hollow Willow Bottoms and Corn Creek.
- Delthony's approach and Barnson's Trailer Court both need better accesses.

—Thomas & Marilyn Jackson, Escalante residents

- Change the 4 lanes running through Escalante to a 2-lane with a left-hand turning lane (Twiddle). This will widen the parking area and make it safer the drivers to get in and out of cars.
- Let's put bulb-outs on the 4 corners of the Main Street/Center Street intersection in downtown Escalante.
- My committee is pursuing new street lights, planters, and drinking fountains through our Enhancement grant.

—Karen Munson, Main Street Committee Chair

- Check for deer patterns both west and east of Escalante.
- I notice several communities on 12 & 89 have [distance signs underneath their speed limit signs, (i.e. speed limit 30 MPH, 800 ft ahead)]. May we please have these on both sides of town. Speed is really a problem for us all here—pedestrians & businesses alike.
- Thank you for the neon signs for our school crossings. We appreciate your attention to this important matter!

—Harriet Priska, Escalante resident/business owner

- There is a need for passing lanes up the Blues.

—Clare Ramsay, Garfield County Commissioner/Tropic resident

- Question about sign restrictions...i.e. sign east of Escalante, near cemetery—sign is on private property that is owned by the business owners, but the business is not on that piece of property.

—Marjie Lee Spencer, Escalante City Mayor

- Build the road over the Blues straight.
- The Blues should have been built straight in the first place. That is a very dangerous part of SR-12.

—verbal comments given in Cannonville meeting

- What are you going to do about The Blues — there are dangerous curves — the road needs to go straight over the top with a "reduced speed ahead" sign and a lowered speed limit.
- There needs to be better signage at The Blues — "Dangerous Road Ahead" or "Only Idiots Drive Fast Here"
- Main Street in Escalante has four lanes that encourage traffic to speed up through town. It would be nice if we could reduce that to one lane in each direction and a center turn lane. We also want to lower the speed limit through town. —Karen Munson

—verbal comments given in Escalante meeting

Section 4: Escalante (East Limits) to Boulder (West Limits) (RP 60.58 - 83.82)

- Provide a safe and practical means for bicyclists along Hwy 12; possibly even a separate route for them, maybe following the old road between Escalante & Boulder.

—Maile Adler, Escalante resident

- ID animal crossing areas (deer/elk) around mile marker 62-63
- Better side road connections to SR-12, i.e. sawmill (MP 63) and Escalante Airport (MP 62)

—Richard Costigan, Escalante resident

- Along Highway 12 from Escalante to Boulder more turnouts need to be made. Shoulders are needed for emergency parking as well as turnouts for the road crew to park overnight when maintaining the road.
- Because some areas of the Boulder Road between Escalante and Boulder are narrow, sandstone ledges need to be blasted to allow more shoulder on the roads and better vision. This would help in emergencies, as well as make a place to scrape the snow.

—Thomas & Marilyn Jackson, Escalante residents

- I called Wade Barney to report vandalism to scenic Hwy 12 sign at the over look by MP 70.

—Harriet Priska, Escalante resident/business owner

- Escalante soil and climate conditions merit agriculture production. We could grow anything if we had the water.
- At least 3 books have been published about our area: "Hole in the Rock" by Miller, "Escalante Story" by Nethella Griffin, and "They Told Them to Call It Escalante" by Jerry Roundy.
- Escalante began as a livestock producing town—sheep, cattle, and horses. That endeavor is struggling with the Grand Staircase-Escalante National Monument. Government offices, the telephone office, Steed's Sawmill, and Turnabout Ranch are the main sources of revenue, and livestock, fishing, hunting, and tourism are picking up some of the slack.

—Vernon R. Spencer, Escalante resident/Rancher

- Deer migrate across SR-12 between the Escalante Airport access road and a cattle guard. Several deer are hit there every year. Could UDOT put a deer underpass and fencing there to prevent accidents?
- Owner of airport access road in Escalante is trying to migrate south. He should not be allowed to do that.

—verbal comments given in Escalante meeting

Section 5: Boulder (West Limits) to Jct SR-24 (RP 83.82 - 123.67)

- Historical marker(s) or maps could be used to show where the previous road(s) were between Escalante and Boulder (before the current highway).

–Maile Adler, Escalante resident

- I believe there needs to be real consideration on new alignment & surfacing from SR-24 at Torrey to Teasdale Junction - approximately 4 miles.
- There should be more turnouts around the Boulder Mountain, not only for automobiles, but for bicyclists.

–Ellis Brown, Contractor

- Need to look at effective directional signing. UDOT's signing on SR-12 and Boulder Town's signing ordinance need to conform to each other (a controversial issue) to maintain aesthetics and a pleasing look.
- What are implications of an All-American Highway designation?

–Tim Clark, Boulder Planning Commission

- The increase in traffic and visitation with the paving of Highway 12 from Boulder to Grover also brought an increase in businesses along the highway. (The State Park visitation went from an average of eight to ten thousand visitors per year, before 1985, to a current average of about forty-five thousand visitors per year.) Therefore, a dangerous situation now exists on SR-12 in Boulder. There is a drive-in restaurant located directly across the highway from Anasazi State Park. During the summer months the restaurant has a number of visitors parked there purchasing food and items from their gift shop, many of whom go back and forth across the highway to visit the State Park. The movement of people across the road presents a safety hazard.
- In addition, vehicles park on the right-of-way on either side of the road, making visibility difficult for the vehicles entering the highway, especially from our parking lot. "No Parking" signs were placed on the right-of-way in the front of Anasazi State Park, but these signs are largely ignored by the visiting public. This makes it extremely difficult for a vehicle exiting from our parking lot to see traffic coming from either direction.
- The increase in traffic poses a threat to anyone crossing the street. I firmly believe that it is just a matter of time before we have a serious accident, either a pedestrian being hit by a vehicle or a serious accident between two vehicles. We have already experienced a few accidents and fortunately they were not serious.
- A solution might be the construction of a left turn lane into the Park. A pedestrian cross-walk might also be painted from the Park to Pole's Place. The addition of pedestrian signs approaching these businesses from either direction would also be helpful.
- The above described situation is a serious one and I feel that it should be addressed before something serious happens. I would be more that willing to discuss the situation with someone from UDOT and see if we couldn't arrive at a workable solution to the problem.

–Larry Davis, Park Manager, Anasazi State Park

- A need for pedestrian pathway along Hwy 12—to be coordinated with [Boulder] town. We are interested in allowing bikes, horses, and pedestrians to be able to travel along in a safe and visually pleasing way.
- Coordinate with [Boulder] town's proposal for collaborative signage so that communication with traveling public is improved without large signs that change the rural character of the community.

—Kristina Karlsson, Boulder Planning Commission

- Snow poles are placed closely together in a number of places on Boulder Mountain. Could you do this between MP 100 & 102 across the summit?
- Could the areas in the shade between MP 102 & 106 be plowed when the ice is melting in the middle of the day? These are very treacherous.

—Harriet Priska, Escalante resident/business owner

- There is a great need for a turn lane at Anasazi State Park on SR-12 in Boulder.

—Brenda Roundy, Utah State Parks

- Safety Issues on SR-12: 1) Inclement weather on highway coming south to north into Steep Creek; 2) Curve at Lower Bowns turn-off needs to be changed (approximately MP 107-108); 3) Curve just north of Single Tree Campground and curve coming into north end of Grover both have wrong "super"; 4) very dangerous curve just south of Torrey at MP 122.50.
- Also, how do you get an adopt a highway section of roadway? Why can one business have most of these just outside of Torrey? (Cowboy Homestead)
- Possibly build some more pullouts for tourists to get off the highway to take pictures such as pullouts at Larb(?) Hollow and Steep Creek.

—Don E. Torgerson, Wayne County Sheriff

- Would like permission to fence right-of-way on north side of SR-12 (½-1 mile between Grover and Torrey) for safety purposes to keep cattle off highway. The cattle's water source is the Fremont River, which is close to the roadway at that point, and cattle are frequently killed. Three cattle killed in one season (2 years ago)...doesn't dare use it as it is now.

—Dwight Williams, Rancher

- Need passing lanes on east Boulder
- There needs to be better signing near the Burr Trail/SR-12 junction and throughout Boulder to let tourists know what its available in the area. However, signing should be kept at a minimum and shouldn't clutter up the town.
- Boulder Town Planning Commission asked what UDOT's permit regulations are for signing. What is the possibility of creating a "combined" sign advertising several businesses, etc?
- There is a lot of pedestrian traffic between Anasazi State Park and the restaurant, gift shop, etc. on the opposite side of the highway. There needs to be a turn lane for Anasazi State Park and also pedestrian crosswalks or signing. If crosswalks aren't possible, something else is needed to create a "visual pedestrian area" to slow traffic down.

- Boulder Town Planning Commission asked if UDOT would be interested in partnering to create a pedestrian/bicycle/equestrian walkway between properties in Boulder Town owned by Boulder Town.

-verbal comments given in Boulder

- Better signing is needed at the junction of SR-12 and SR-24. Many people don't realize that there is a Torrey Town west of the junction. They think that the businesses at the junction are "Torrey" and they just head east toward Capitol Reef.
- The concept of "multiple use" land has been fading recently. Something needs to be done (fencing, etc) between Grover and Torrey along the BLM lands to make it safer for people to still use the "multiple use" public lands, especially for permittees' cattle that run on the land adjacent to the road.
- There are lots of bicycles between Torrey and Grover, and the bicycle tour groups tend to travel down the middle of the road. There needs to be a separate trail or a wider shoulder on which they can ride.

-verbal comments given in Bicknell

Additional General Verbal Comments – Listed by Topic

Bicycles:

- There needs to be a license for bicyclists that will cover the cost of bicycle trails. We shouldn't have to pay for that out of our gas taxes.
- Bikes are not paying their way
- A \$100 bike license should be required of every cyclist on the road. They should have to pay (\$100) and pass a test just like motorists to be sure they know and will follow the rules of the road. Cyclists need to be responsible for their actions and identifiable if they are not.
- If there is not room for a bicyclist to ride outside the white line, they ought not be allowed on the road.
- One possible reason for bicyclists riding in the travel lane might be that they are afraid that the gravel on the edges of the roadway will flatten their tires. Maybe sweeping the edges of the roadway will help the situation until a more permanent solution can be implemented.

–verbal comments given in Cannonville

- There are several bike touring companies that are marketing SR-12, and bringing large groups of bike riders to enjoy the route.
- Bikes are being ridden three or more abreast on the highway. This is typical with the above mentioned bike tours, but the comment was made that it was also a common occurrence with individuals riding together, and small groups.
- Bikes should be licensed. Further expansion on this comment suggested that the licenses be large and readable at a distance, similar to motorcycle tags. This way, individual bikes could be identified from passing vehicles.
- Bicycle tour groups should be required to educate their clients about bicycle regulations and laws. Tour groups should be required to educate and encourage their clients' compliance with bicycle regulations.
- Bicycles should be restricted from highways without a striped shoulder sufficiently wide to accommodate a bicycle lane.
- All highways should have either alternate bicycle routing, or adjacent/separated bicycle lanes/paths. There was discussion about additional cost to sweep and maintain these paths, but those in attendance seemed to indicate sufficient resources should be employed to maintain safe and useable bike paths.

–verbal comments given in Escalante and Cannonville

Character of the Area:

- Need continuity of planning to preserve the character of the area and to be consistent along the route.

–verbal comment given in Boulder

- Make the highway better for travel, but preserve the intrinsic value of a rural route that is friendly to shepherds and beef ranchers who wish to run their livestock down the road. It adds to and actually defines our preferred quality of life.
- You need to balance the needs to improve safety, preserve commerce, and preserve the remote and rural atmosphere of SR-12

–verbal comments given in Escalante

Intersections:

- View angles need to be 90 degrees
–*verbal comment given in Escalante*

Lighting:

- If you have to have lights for safety's sake, please use full-cutoff lighting to reduce the light pollution or the amount of light that is aimed up. We like our dark skies. –Erica Walz
–*verbal comment given in Escalante*

National Scenic Byway Designation:

- What signing restrictions would there be in connection with the "All American" Scenic Byway designation?
–*verbal comments given in Boulder*
- What are the extra restrictions that would come with an "All American" Scenic Byway designation?
–*verbal comment given in Cannonville*

Signing Issues:

- What signing restrictions would there be in connection with the "All American" Scenic Byway designation?
–*verbal comment given in Boulder*
- We don't like "Meat is Murder" and other politically charged slogans on the adopt-a-highway signs on SR-12
–*verbal comment given in Escalante*

Slow-Moving Traffic & Other Traffic Patterns / Need for Turn-outs & Passing Lanes:

- More turnouts are needed along the highway to slow people down and keep them in the area for longer. This would also encourage them to stay and take advantage of the tourist attractions in the area.
–*verbal comment given in Bicknell*
- Need more turnouts plowed in winter for use by UDOT's snow plows, skiers, local people, community businesses, tourists etc.
- Need passing lanes and more turnouts for slow motor homes and other RV's.
–*verbal comments given in Boulder*
- Provide turnouts for tourists. Put maps and information in the turnouts
- Slow vehicles should be required to move off the road and let faster traffic by. We need pullouts or passing lanes or something. There should be a law that if there are more than five vehicle behind you, you should have to pull over and let them by.
–*verbal comments given in Cannonville*

- There is a need for pull-outs for use by sightseers, tourists and other slow or stopped traffic.
- Farm equipment and large trucks are impeded by gobs and gobs of people that we don't want on SR-12
- There is a lot of large truck traffic on SR-12 – and it will only increase
- Types of Traffic on SR-12:
 - Market Driven Truck Traffic (logging, coal, commercial, etc)
 - Tour Bus Traffic
 - Tourists and other RV's
 - Farm Equipment
 - Local Residents
- Turn-outs are okay if the reason for them is safety, but turn-outs are not okay for interpretive sites because they create additional safety concerns like parked cars, and pedestrians on SR-12 and they take away more of the scenery
–verbal comments given in Escalante

Snow Removal:

- What is priority for snow removal?
- Need more turnouts plowed in winter for use by UDOT's snow plows, skiers, local people, community businesses, tourists etc.
- There is some concern about snow plows turning around at the end of their service area, when the extent of the snowfall may only be a short distance further. UDOT was asked to consider the efficiency of this practice, and coordinate better between each maintenance station. This practice of snow removal cause aggravation to drivers contending with the abrupt change in clearing of the snow.
–verbal comments given in Boulder

Stock along SR-12:

- There is a need for providing a stock trail that is separated from the main highway to move cattle safely along the SR-12 corridor.
- Request that UDOT and the BLM and USFS work together to provide safe stock driveways from Torrey to Boulder Mountain.
–verbal comments given in Bicknell

General Comment:

- Overall, there are feelings of appreciation expressed for UDOT's maintenance work and people do not want to overlook the good service while trying to address their concerns and ideas.
–verbal comment given in Bicknell

Additional General Written Comments – Listed by Name

- Provide a safe and practical means for bicyclists along Hwy 12; possibly even a separate route for them
- Allow for fencing to keep cows off the highway, but also providing for other wildlife passage. For example, pronghorn antelope will not jump fences, so the fence would need to be off the ground to provide for safe passage for the pronghorn UNDERNEATH the fence.
- An idea for possible interpretation along the highway would be to show on maps or with historical marker(s) where the previous road(s) were between Escalante and Boulder (before the current highway).

–Maile Adler, Escalante resident

- I support the concept of maintaining rural qualities in communities!

–Mark Austin, Boulder Mountain Lodge

- I am very supportive of pursuing all improvements of SR-12 to qualify for "all-American" Highway designation
- Restrict bill-boards & signage to within city limits or on-business sites.

–Sharol Bernardo, Garfield Co. Travel Council/Escalante resident/business owner

- What are implications of an All-American Highway designation?

–Tim Clark, Boulder Planning Commission

- Bike lanes entire Route 12 (where possible)
- Remote and rural character of the area.
- Please try to balance the traffic needs on increased auto and truck traffic, safety, etc. along with the rural characteristics of this natural area.
- Disallow billboards along SR-12 corridor outside of city limits of each town.
- Assist cities along SR-12 with in-town sign ordinances to allow for historic and cultural characteristics of each city to be preserved/maintained.

–Richard Costigan, Escalante resident

- Better signage (though this does not mean more intrusive signage) must be developed. This road has undoubtedly become a major tourist thoroughfare, thereby affecting the nature of all the small communities along the road. In order to mitigate these oft-negative changes (increased traffic, speeding, disregard or even animosity towards local custom—particularly on holidays, stress on local EMT crews, bike tours, large bus tours, etc.) better signage could provide much needed tourist information. It could also assist in slowing tourists down, controlling crowds (assisting, anyway!), provide them with activity information (trailheads in particular) and simply making these tourists better educated and aware of our communities and beautiful natural resources.
- It will benefit the local economies if the corridor plan can possibly be done in a manner which encourages tourists to slow down & spend a little more time in our

counties. (Since the tourists are coming regardless, I'd rather they spend more time, spend more money, and become better aware and knowledgeable about Wayne & Garfield Counties).

- More construction, such as widening the road, is not always necessary; that being said, well-designed & placed turn-outs could make the road safer & more friendly to travelers, both local & recreational. The Wayne County Sheriff also has good suggestions for making our part of the road safer.
- Please maintain "multiple use" aspects of the highway. Cattle trailing & timber hauling occurred long before the road was paved & these traditional uses—important to local economies & histories—must be accommodated. Tourism has become the predominant use of the road, but it certainly isn't the only use (obviously), but it also shouldn't be the driving force behind this management plan. Local folks depend on this corridor, often essentially "commuting" on this most scenic road. It is our major travelway and our very real and practical needs (as opposed to recreational wants) should be predominate in this process.
- To that end, thanks for visiting our towns and I sincerely hope that these open houses by UDOT will continue as the process progresses. Let us be involved!

—Brian Cottam, Wayne County Travel Council

- I wouldn't like to see a 4-lane road! It only encourages speed. But we do need to widen the roadway, as it is dangerous to pass RV's and semi trucks or bicyclists.
- Scenic stops are needed for tourists. With so much advertisement of this beautiful stretch of Highway 12 promoting the route, we are not going to stop the high visitor rate.
- We do need passing lanes at intervals particularly before hills such as going up the dump to the top of Bryce Canyon from Tropic.

—M.V. Crawford, Escalante resident

- Widen the highway and modify some of the curves all along the highway. Some curves are too sharp. The road is too narrow, which causes danger, especially with large trucks that frequent the highway.
- Make a bike route along the side of the highway.
- Put passing lanes on steep grades.
- Take down the "Adopt A Highway" signs. They are unsightly and unnecessary.

—Richard Crawford, Escalante resident

- Bicycles are an ongoing danger to both riders and drivers. Need bicycle trails! I understand one through Red Canyon is in the works, but if bicycles are going to be allowed on top and down the Dump—well all the way along Hwy 12, at least as far as Cannonville—bicycle trails are a must. Cyclists, generally speaking, seem to take little responsibility for their own or others' safety as they string out across an entire lane of highway. Bicycles need to be licensed with an annual relicensing, just as others who travel the road.
- Does Utah have a law regarding pulling off pavement when traffic piles behind a vehicle? Three cars, five cars? While all drivers need to be considerate, it really

behooves excessively slow vehicles to grant others the privilege of driving the speed limit.

- Regarding cattle drives on highway, we have found the cattlemen most considerate by having vehicles with flags well in advance of the cattle, which gives a good warning (even if they are protecting their investment). Cattle drives give a good feeling and, after all, they were here with rights before we were.

—A.C. & Lila H. Hammer, Cannonville residents

- Local UDOT workers do a wonderful job! They are dedicated and work long and hard to provide a safe highway within the budget constraints.
- Some method of taxing or licensing bicycles should be implemented to compensate for highway improvement, especially when they are competing and there are dozens of them.
- Keep gravel pits open for use in repairing the road; more are badly needed.

—Thomas & Marilyn Jackson, Escalante residents

- Look at ways to improve safety with the multiple use of bikes, cattle, and cars. All should be encouraged safely.
- Increase communication as to how to work together. What is required needs to be clear as to how to get information—coordinate efforts with general communication.
- Let's look at the restrictions and how they are working—such as speed, cross walks, and signage—helping people take in full enjoyment of what the area has to offer.
- What UDOT allows within town limits vs. in the Monument needs to look at the needs, not as blanket regulations that fit everything.
- What is UDOT's policy on permits and enforcement for signing on SR-12?

—Kristina Karlsson, Boulder Planning Commission

- Highway 12 is an important corridor for the movement of livestock and timber. This highway must remain open to livestock drives and hauling. The timber industry brings logs to Escalante and ships lumber to Colorado. Large trucks are used in hauling and there is a concern with bicyclists' safety. Livestock are driven as this highway is a livestock driveway. Safety to motorists and livestock is important. Signage is imperative to let motorists know that livestock are on the highway and that logging trucks are also using the road.
- The policy of allowing any kind of a statement on the "Adopt a Highway" signs is unacceptable. "Meat is murder, Live and let live" is a political and social statement.
- The Adopt a Highway program should not be used as a venue for social change. These signs should only state who the group is (not what they believe) that is adopting that section of highway.
- The livestock industry has been a part of the custom and culture since the area was settled in the later 1800's. This culture should be preserved and cattle drives are a tourist attraction that should be promoted. Scenic byway Highway 12 could attract tourists who want to see a part of the west that they can't see on other highways.

—John B. Keeler, Director of Field Services, Utah Farm Bureau

- No chain stores
- No billboards/signs
- No golf courses
- Make everything low impact...I like SR-12 just the way it is
–M'lin Kendrick-Stafford, Boulder resident
- Thank you for all you are doing to help us become a National Scenic Highway.
–Harriet Priska, Escalante resident/business owner
- Need big signs advertising Bryce Canyon National Park and the new Monument.
- Bar bicycles from highways where the room to ride outside the white line is not available.
–Clare Ramsay, Garfield County Commissioner/Tropic resident
- Need to refine and upgrade signage to scenic/tourist attractions. Road signs not interpretive signs.
- Review bike safety on Highways 12, 89, and 143.
- Enhance bike space, at least from Junction 89/12 to Bryce Canyon.
- Provide better identification of interpretive turnouts.
- Possible extension of natural gas pipeline from 12 & 89 Junction? Coordinate with construction.
–A. Jean Seiler, Tropic Town Mayor
- No more bikes
- Need more turn-outs
- All signs need to be checked by state people to make sure they are legal.
–Marjie Lee Spencer, Escalante City Mayor
- When looking ahead 20 years, be aware of Highway 22 from Pink Cliffs Junction to Antimony via Johns Valley, which takes in Pine Lake and the ghost town of Widsloe. It also provides access to Escalante via a road over the Escalante Mountain, up Sweet Water Canyon, and down Main Canyon that connects with Highway 12 six miles west of Escalante. Highway 22 continues down Johns Valley on the East Fork Sevier River thru Black Canyon to Otter Creek Reservoir, providing access to Kingston and Koosharem.
- Escalante is becoming a tourist trap, so things of interest along Highway 12 are many and varied. I.e. a pumping oil well at Pets Hollow, coal deposits in Alvey Wash, Main Canyon on to 50 Mile Mountain, an improved road to "Hole in the Rock" with a boat dock there, and a ferry to Bluff and Monticello with marinas at both crossings.
- At least \$5000 was invested in the Hole in the Rock back in 1879.
–Vernon R. Spencer, Escalante resident/Rancher
- How do you get an adopt a highway section of roadway? Why can one business have most of these just outside of Torrey? (Cowboy Homestead)

- The #1 problem on SR-12 is speed and being able to patrol traffic and enforce traffic laws due to the amount of traffic and lack of man power to work this roadway. We have been lucky that we have not had more very serious accidents. Would it be possible for the state to funnel money to Wayne County and Garfield County for enforcement, as there is a trooper in Panguitch and one in Loa?
- There is a lot of bicycle traffic--need a bicycle lane or a wider shoulder for bicycle traffic.

-Don E. Torgerson, Wayne County Sheriff

- Use pull-outs & interpretation opportunities to relieve traffic problems & to encourage visitors to stop in local communities for more information.
- Most of the increased traffic will be visitors who would appreciate opportunities to learn more about the area, see the scenery, & get information. Pull-outs would take them off the road & let the thru traffic get thru!!
- Large sections of the road were built by the CCC "boys" & the communities. This could be a "theme" for All-American Road designation. This was a great source of pride with the communities. There were CCC camps in Escalante & Henrieville Canyon near the spring.

-Kathleen Truman, Utah Travel Council

- I would like to thank you for your efforts to include the Dixie National Forest in the Corridor Management Planning effort for SR-12. We hope to have an ongoing open dialogue with you as the Plan proceeds.
- I feel that the visual integrity of the scenery surrounding the highway is paramount. With a landscape such as this, we must be very careful that the built environment does not intrude upon or impair the great beauty of the route.
- If any of the communities along SR-12 or other organizations such as a travel council want to pursue National Scenic Byway or All American Road status for SR-12, the Dixie National Forest would support and work with them in this effort.

-Mary Wagner, Forest Supervisor, Dixie National Forest

Address List for Written Comments:

Maile Adler P.O. Box 106 Escalante, UT 84726	Mark Austin, owner Boulder Mountain Lodge Boulder, UT 84716	Sharol Bernardo Garfield Co. Travel Council P.O. Box 534 Escalante, UT 84726
Ellis Brown, Contractor P.O. Box 43 Loa, UT 84747	Tim Clark Boulder Planning Comm. Boulder, UT 84716	Richard Costigan P.O. Box 508 Escalante, UT 84726
Brian Cottam Wayne Co. Travel Council P.O. Box 201 Torrey, UT 84775	Richard & M.V. Crawford P.O. Box 305 Escalante, UT 84726	Larry Davis, Park Manager Anasazi State Park P.O. Box 1429 Boulder, UT 84716
David Delthony 1540 W Hwy. 12 Escalante, UT 84726	A.C. & Lila H. Hammer P.O. Box 180084 Cannonville, UT 84718	Thomas & Marilyn Jackson P.O. Box 527 Escalante, UT 84726
Kristina Karlsson Boulder Planning Comm. P.O. Box 1385 Boulder, UT 84716	John B. Keeler 406 E Union Manti, UT 84642	M'lin Kendrick-Stafford Boulder, UT 84716 (435-335-7389)
Karen Munson, Chair Main Street Committee P.O. Box 560 Escalante, UT 84726	Harriet Priska, co-owner Serenidad Gallery & Retreat P.O. Box 326 Escalante, UT 84726	Clare Ramsay Garfield County Comm. P.O. Box 37 Tropic, UT 84776
Brenda Roundy Anasazi State Park Boulder, UT 84716	Mayor A. Jean Seiler P.O. Box 17 Bryce, UT 84764	Mayor Marjie Spencer City of Escalante P.O. Box 189 Escalante, UT 84726
Vernon R. Spencer P.O. Box 281 Escalante, UT 84726	Don E. Torgerson Wayne County Sheriff P.O. Box 219 Loa, UT 84747	Kathleen Truman Utah Travel Council P.O. Box 842 Ferron, UT 84523
Mary Wagner, Supervisor Dixie National Forest 82 N 100 E Cedar City, UT 84720	Dwight Williams P.O. Box 49 Teasdale, UT 84773	

Comments received December 13, 2000 (after the comments received before the November 25, 2000, deadline were compiled and printed)... These were not included in the printed list that was distributed to the partnering agencies on December 14, 2000:

- Improve lane delineation at [Junction of] Hwy 12 & 89. Lighting is not necessary at this intersection. Better layout and signage would improve intersection visibility and safety. Please do not put lights at that intersection which would detract from rural/remote character. Besides, I do not believe lighting will work as well, when what is really needed are better lane/ intersection markers. The wide triangles create a "no man's land" that is hard for the mind to negotiate. Please consider reflective dome dots...anything but lights.
- No more tourist turnouts, please! Again, a detraction from remote/rural character! This is not Disneyland. They present hazard to through traffic.

—*Erica Walz, Escalante resident*

Appendix J
Work Group Meetings

SR -12 HIGHWAY CORRIDOR PLANNING MEETING AGENDA

for 02 August 2000 Meeting at Escalante Town Hall with Public Agencies
2:00 PM - 5:00 PM

- I. Welcome by Dale Peterson, UDOT Region 4 Director
- II. Introduction of Participants
- III Corridor Segments for presenting information in segments that have similar characteristics
 - A. Segment 1: Jct. 12 and 89 to Bryce Canyon Turnoff
 - B. Segment 2: Bryce Canyon Turnoff to Henrieville
 - C. Segment 3: Henrieville to Escalante
 - D. Segment 4: Escalante to Boulder
 - E. Segment 5: Boulder to Torrey
- IV. Summary of issues in the SR-12 Corridor from each public agency or local government. What improvements along SR-12 would be most valuable to your organization?
- V. Define Goals (Common Objectives) for the Corridor Plan/Needs Assessment. Should the plan be including working towards application for National Scenic Byway Status? What are the advantages and disadvantages of becoming a National Scenic Byway? Any thoughts on a theme for SR-12?
- VI Where do we go from here? Outline of steps for completing the Corridor Plan.
 - A. What are the information needs and who can help with research and compiling these items?
 - B. Best means of communicating within the group
 - C. Public Information Strategy

SK-12 Corridor Planning Mtg 8/2/0

(Print)

Name	Organization	Phone	E-Mail
✓ Chris McAlister	Grand Staircase-Escalante National Monument	435-644-4302	cmcalister@utah.gov
✓ Wade Barney	State Supervisor-UDOT	435-826-4233	
✓ Tom Clark	Capitol Reef NP	435-424-3791 x 144	Tom_O_Clark@nps.gov
✓ Keith GALEY	BOULDER TOWN	435-335-7317	
✓ M. CASTAGNETTO	BRUCE LANDON N.P.	435-834-4200	Michael_Castagnetto@nps.gov
✓ BRUCE FULLMER	GARFIELD CO TRAVEL	435-676-1102	bruce@color-county.com
✓ Joseph G. Block	Dixie Nat'l Forest	435-676-8815	jblock@4-dixie.com
✓ Kathleen Trueman	Utah Travel Council	435-381-2038	KTrueman@utah.com
✓ JANE VERIKAKIS	UDOT	435-893-4750	
✓ Kristina Karlsson	Boulder Planning Commission	435-335-7312	kna@color-county.com
✓ EAZYL FRIANT	UDOT R-4	435-893-4714	
✓ TOM SHOCKENBACH	UTAH PARKS & REC	435-676-8462	
✓ HANLAN MILLER	FHLA	801-563-0078 x 233	HANLAN.MILLER@FHLA.gov
✓ Ted Madden	UDOT RA RIW	435-893-4713	tmadden@dot.state.ut.us
✓ Nancy Brunswick	Dixie NF	435-865-3225	nbrunswick@fs.fed.us
✓ Nanci Anderson	Wayne County Travel Council	435-425-3930	ninfo@capitolreef.com
✓ Brian Bremner	GARFIELD CO	676-1119	engineers@color-county.com
✓ Marjie Spencer	Town of Escalante		

(Print)

Name	Organization	Phone	E-Mail
✓ Debbie Hall	UDOT	965-3897	DHall@dot.state.ut.
✓ Mary Jo Spencer	Accompany City	826-4883	
✓ Wayne Sarge	UDOT Planning	801-965-4125	wsarge@dot.state.ut.
✓ MYRON LEE	UDOT REGION 4		MLEE@DOT.STATE.UT.
MARK PEARSON	DEQ-DWQ SLC	801-538-9251	mpearson@DEQ.STATE.UT.
Randall Taylor	UDOT		
✓ Dale Peterson	UDOT		
Anne Ogden	UDOT		

MINUTES FOR CORRIDOR 12, Aug. 2, 2000 ESCALANTE MEETING 2:00-5:00 PM

^{Peterson}
Dale Peterson, UDOT Region 4 Director gave welcoming remarks:

ISSUES identified by 3 work groups:

- 1) Whether to seek All American Road designation
- 2) Reduction of environmental degradation to the greatest degree possible
- 3) Lack of interpretive information
- 4) Narrow roads with inadequate shoulders
- 5) Culvert design and water quality
- 6) "Windshield tourism" - not stopping
- 7) Some advertising signing is needed around towns, but it also needs to be limited
- 8) Would like to preserve open range but need to increase safety
- 9) Need increased traffic safety among RV's, tour buses, and bikes
- 10) Need more turnouts
- 11) Need to add passing lanes, also a comment that turnouts are preferred to maintain the character of the highway
- 12) Identify high accident rate areas
- 13) Need bike lanes; possibly need to restrict bikes where not suitable; could there be alternative bike routes to keep them off of SR-12
- 14) Need to identify public access to other roads
- 15) Promotion
- 16) The need for a common plan among stakeholders
- 17) Need for traveler information services
- 18) Preserve business availability to the corridor
- 19) Signage

20) Safety Issues: Road grades, shoulder slopes, sight distances, and clear zone

21) Maintenance Concerns:

A. Drainage - need to be able to grade drainage ditches for water run off even if they have to be graded beyond the highway right-of-way

B. Need to have a variety of borrow sources on federal lands that will provide for reasonable haul distances and the right color of soil to match the fill area

C. Need staging areas for material and equipment and these areas often will not fit on the existing highway right-of-way

22) Roadway geometric design

23) Lack of orientation information (signage, mile markers, etc)

PROPOSED IMPROVEMENTS NEEDED as identified by the 3 work groups

1) A minimum of 4-ft shoulders

2) More pullouts and scenic turnouts

3) Interpretative Opportunities/Stopping Areas

4) Passing Lanes

5) Visitors Center

6) Rest Areas

7) Promotional Material

8) Signage

9) A unifying theme for the highway corridor and a highway name

10) Increase width of lanes and shoulders

11) Maintain continuity and scenic quality

PROPOSED GOALS

- 1) Functional Adequacy (ability to safely handle the traffic at reasonable speeds)
- 2) Gain All American Highway Status
- 3) Have a Common Plan Among Stakeholders, Including a Sign Plan
- 4) Improve Visitor Services
- 5) Accommodate Users
- 6) Maintain Favorable Economic Conditions
- 7) Preserve the Character and Values of the Highway Corridor
- 8) Improve Agency and Community Coordination
- 9) Create an Identity for the Highway and a Theme
- 10) Manage for Scenic Values beyond the Corridor (be aware of how activities on the corridor effect scenic values from other locations)
- 11) Partner Resources to be able to accomplish more by working together
- 12) A question was raised about the need for a consultant to create a plan that will meet various needs
- 13) Environmental Preservation

BRAINSTORMING OF POTENTIAL IMPROVEMENTS THAT WOULD ACCOMPLISH THE GOALS

- 1) Multiple use of turnouts for scenic opportunities, interpretative opportunities, and to allow slow moving vehicles to pull over and allow passing
- 2) Alternative Transportation such as shuttle systems between communities and sites
- 3) Intelligent Transportation Signing (Realtime variable message signs)
- 4) Transportation Information Systems (TIS - the use of radio broadcast to provide visitor information)

ASSIGNMENT TO PARTICIPANTS

Everyone was asked to go back to their organization and brainstorm the issues, suggested improvements, and the values and character that should be maintained along SR-12.

SR-12 PLANING MEETING FOR PUBLIC OPEN HOUSES

AGENDA for 11 October at Panguitch USFS Office

2006

I. Discuss Times, Places, and Contents of the Meetings.

- A. Nov. 2, Thursday 4:30 - 6:15 PM at Escalante Town Hall
- B. Nov. 2, Thursday 7:30-9:00 PM at Cannonville Town Hall
- C. Nov. 9, Thursday 4:00-6:00 PM at Boulder Town Hall
- D. Nov. 9, Thursday 7:30-9:00 PM at Bicknel Town Hall

II. How Will Multiple Agencies Participate, Who Will Be Represented

III. Can Maps Be Left for Several Days to Allow Additional Comment? Locations?
Should Other Means be Provided for Comment?

IV. Methods of Advertisement for Meetings and Solicitation of Historical Information

October 11, 2000 - SR-12 Planning Meeting

Name	Agency	Phone #
Kendall Taylor	UDOT	(435) 893-4788
Anne Ogden	UDOT	435-893-4783
MYRON LEE	UDOT	435-893-4782
Gretchen Merrill	Dixie NF	435-865-3711
Lynn Chamberlary	USDA Forest Service	(435) 865-6114
Stephen Hatch (Forest Black)	Utah DWR	435-676-8815
Wayne Thomas	Forest Service	435-673-3528
	DEQ	

Nov. 16th Field Meeting Minutes
2000

From: Randall Taylor
To: bsharrow@ut.blm.gov; cmcalear@ut.blm.gov; dbolsen@ut.blm.gov;
ttenry@ut.blm.gov
Date: 12/4/00 1:42PM
Subject: SR-12 Working Relations and Planning

Our field inspection meeting on Nov. 16 with Tom Terry, Butch Olson, and Chris McAlear was some valuable time spent. I can tell you that our people are highly excited about the prospects of coming up with a partnering agreement that better defines the working cooperation our agencies are committed to obtain. My notes show the following results from this meeting:

- 1) We identified sites to be G.P.S. located by UDOT. UDOT currently has the SR-12 route G.P.S. located and the sites will be overlain on the roadway and shared with the Monument. These sites include areas where work has historically been performed outside of the ROW (primarily drainage related work), borrow and staging areas, and turnouts, including interpretive turnout areas and campsites.
- 2) The Monument will continue working on partnering language which will hopefully include ROW definition (will seek to obtain a consistent 200-ft ROW through the length of the Monument), borrow availability, and work outside the ROW.
- 3) Previous attempts to renew the Head of Rocks and New Home Bench borrow sites was discussed and the Monument will check on the possibility of obtaining these permit renewals.
- 4) The Smith's Crossing borrow site and the borrow site east of Henrieville have existing borrow leases.
- 5) The North Creek/Main Canyon borrow site is half on the monument and half on state trust land. It needs to be maintained as a source.
- 6) The Monument will G.P.S. the Smith Ranch recreation area and share this with UDOT.
- 7) UDOT and the Monument need to look at solutions for handling drainage problems that involve the least amount of disturbance. Possibly a few culverts need to be raised. The problem drainage crossing in the Blues needs to be reviewed to see if a better solution is available.
- 8) Using the agreements achieved on SR-12 as a template the Monument and UDOT would also like to eventually look at US 89 in the Kanab area.

The next step in our planning process is to establish work groups for different corridor sections, who will come up with specific recommendations considering the input received. I'm attaching a letter (Word Perfect document) sent to Mary Wagner of the USFS, because it outlines our thoughts on the function of these workgroups.

Thanks for sending Craig Sorensen to the Boulder and Bicknell public open house meetings. These were well attended and went better than I expected. Butch Olsen and Craig both have a lot of local knowledge that would be helpful in the ground work that lies ahead.

I have just received recommendations from the Park Service Rivers and Trails Program summarizing their review of how bicycle use along the corridor might be better accommodated. I will copy this to you and to the USFS.

Barbara, if you can identify the people you would like to have involved in the workshops. We will mail out public comments received, obtain maps of the G.P.S. sites from our Nov 16 field trip and have the workshop personnel review this during the month of December. We will try to have some preliminary talks about a few issues and prepare for workshop meetings among informed participants about the week of January 15th or the week of January 22nd if this is acceptable

The key workshop staff should be a small enough group that it is not overly cumbersome to arrange meeting times. They will need to be able to commit the time needed, and to be able to make many of the decisions along the way. They could in turn relay information and involve others of your staff as necessary.

Thanks for the help and continued diligence from the many participants in these efforts. Feel free to relate your suggestions along the way. My phone is (435) 893-4788.

CC: Christensen, Brent; Christensen, Ross; Jerome, Nancy; Ogden, Anne; Peterson, Dale; Station 4324, Escalante Maintenance; Verhaeren, Karl

SR-12 WORK GROUP MEETING FOR THE WEST END OF THE ROAD
THROUGH THE USFS AND BRYCE CANYON PARK

24 January 2001

This meeting was principally for coordination between USFS, Bryce Canyon NPS, and UDOT; GSENM representatives were requested to attend for continuity of planning on issues that involve all of the road including the Monument.

Meeting convened at 8:30 AM in the USFS office in Panguitch. Attached to these minutes is the list of people who attended.

Red Canyon bicycle trail: contract has been awarded and construction will begin this spring. Graveled parking areas are included in this project and will be constructed at each end of the trail.

Red Canyon visitor center is to be constructed in 2003. Bicycle safety information could possibly be included in the interpretive and educational aspects of the new visitor center.

UDOT presented the opinion that the most feasible means for accommodating bicycles would be with UDOT's standard road design (for this traffic volume) of 12 + 12 ft travel lanes and 4-ft shoulders minimum. However, it is recognized that 6-ft shoulders would be better wherever possible (such as across the open flats approaching Bryce Canyon Park). Attendees seemed to agree that this would be the more practical method, although a separate bike trail is an attractive alternative if it is possible in any of the areas.

A strong need to extend the Red Canyon bike trail to Bryce Canyon was expressed, as this portion of SR-12 is the area of greatest bike use along the route, and this area is more suitable to focus bike use rather than the portion from Escalante to Torrey.

It was discussed that part of an immediate solution for better accommodating bicycles could be to make educational information about safety and the rules of the road available to groups and/or individuals. "Share the Road" signage could also be erected to help make people aware of bicyclists along the route.

We talked about encouraging bicycles to use areas that are most suitable for them. We want to be careful that, as we enhance certain areas for bicycles, we are not encouraging greater bicycle use in areas where they are not compatible. It is recognized that full accommodation of bicycles will take an extended period of time, but we can be working towards that goal.

The new bridge over the Sevier River, near the Jct. with US-89, is currently being designed with 8-ft wide shoulders.

It was noted that in Red Canyon concrete walls and rock/wire gabion baskets protect the roadway from flood waters. This needs to be considered in any roadway widening efforts.

The NPS suggested a passing lane near the top of dump area for traffic coming up the hill from Tropic. It was noted that this had not been constructed because of objections from the NPS and UDOT does not have a formal ROW through this area. The NPS stated that the current Park administration is interested in pursuing this option. It was further suggested that passing lanes also be built in the lower part of the dump area.

Carlton Guillete, District Ranger for the USFS, gave us a list of his suggestions for this area of SR-12, and we discussed the list, which is attached to these minutes. We also reviewed input from the other parties present, including Bruce Dalton from the UDOT Panguitch Maintenance Shed and Wade Barney from UDOT's Escalante Maintenance Shed.

We discussed the need for developing an interpretive and communication plan, and left this for further discussion at the conclusion of the field tour.

We left Panguitch about 10:45 AM and stopped just east of the SR-89 Jct to look at the possibility of a staging area there for bicyclist unloading, but decided to plan for this facility at the beginning of the USFS bike trail. A sign would be located near the junction to guide people to that area. We discussed that bicycle information and other gateway information would be developed at the alternate location at the mouth of Red Canyon.

We drove up to the beginning of the bike trail, which is also the site of an information kiosk and the Thunder Mountain trailhead, and the Sevier fault line. The USFS will develop additional parking here in connection with the bike trail construction.

We drove to the current Red Canyon visitor center. This does not connect to the bike trail. It has a large parking lot and was developed with federal highways money and UDOT participation.

We drove up Red Canyon where passing lanes are recommended ($\frac{1}{2}$ - 1 mile at the upper end).

We stopped at the top of the Canyon, near the Tom Best Road, where the bike trail ends. This is the future location of the other gravel parking area associated with the bike trail.

We drove on to the Junction of SR-63. There are 3 UDOT signs that indicate this turn off from the E.B. approach; we did not check the W.B. side. Bryce Canyon said they will also be adding signs including an electronic variable message sign. This should go a long way toward addressing public comments about better identifying this junction for approaching visitors. We also discussed the problem of traffic not stopping at the junction with SR-12 as they come out of Bryce Canyon. A possible help would be over-sized "STOP AHEAD" and "STOP" signs at the junction.

We drove on to Ruby's Inn and had lunch, during which we discussed the communication/interpretive plan. There is a need for an agency to take the lead, but no one volunteered. Fran and Randall will talk with Mary Wagner about the USFS possibly taking this lead. It was decided to have a work group meeting for this issue on Feb 27 at 9 AM in Panguitch, either at the USFS office, or the USFS will arrange for a site. Randall will advise the County Travel Councils about this meeting and invite their participation.

We talked about also needing to do some more field review with GSENM, and to hold a similar meeting with the USFS on the Boulder Mountain portion of SR-12. This USFS work group meeting will likely be in the first part of March, Randall will coordinate with Joe Black.

It was suggested that the portion of SR-63 from SR-12 to the Park Service road in Bryce Canyon should be included in this corridor plan. The NPS is currently widening the road through Bryce with shoulders for bikes.

<u>Name</u>	<u>Agency</u>	<u>Phone Number</u>
Anne Ogden	UDOT - Region 4	435-843-4783
SANDY WEINRAUCH	UDOT Bike + Ped-Planner	801-965-3885
NANCY JEROME	UDOT - REGION 4 R/W	435-843-4700
-Ted Madden	UDOT - Region 4 R/W	
Bruce Dalton	UDOT (Main)	435-676-2301
Wade Barney	UDOT Main Escalante	435-826-4233
Chris McAlear	BLM - Grand Staircase	435-644 4302
Dan's Woolsey	NPS - Bryce Canyon	435-834-4411
Gingy Calhoun	USFS Escalante	435-826-5425
Xandell Tyler	UDOT	893-4788
Frances Reynolds	USFS - Dixie NF	435-865-3744
Maggie Dowd	USFS Dixie NF	865-3707
Colton P. Gullette	USFS Panguitch	435-676-8815
Evan Beshell	USFS Panguitch	676 8815
Joe Black	USFS Panguitch/Cedar	435-676-8815
Paul Dastrop	USFS Panguitch	435-676-9352
Don Ames	UDOT Statewide Planner	
Butch Olsen	BLM Grand Staircase Escalante	435-826-5566

Corridor Management Plan for SR-12
Powell Ranger District
Dixie National Forest

The Powell Ranger District, Dixie National Forest, has prepared a list of projects, which would enhance management of National Forest System lands both directly and indirectly. These projects would fall within the effected area of the Corridor Management Plan for SR-12.

- I. Highway US-89/U-12 junction to mouth of Red Canyon. → where most bicyclists (esp. outfitters) begin trips
gateway/staging area.
1. Construct a bike trail.
 - a. Option 2 - Widen highway to accommodate bikes.
 2. Add one turnout on the south side of road approximately midway. → 3/4 mile west near to Forest Boundary
*Combine w/ gateway project, incl Bryce Shuttle & bike info signs
 3. Enlarge the turnout near the Red Canyon bridge south of the road. → existing turnout needs to be bigger
 4. Mow brush and grass/weeds by July 1 of each year and maybe in the fall. There is getting to be a rabbit brush and gumweed problem. - Jct SR-12/US-89 to mouth of Red Canyon
 5. Replace the existing old fence with a new desirable looking fence (standard barbed wire fence approximately 2 miles in length on both sides of the highway).
 6. Pave the existing Thunder Mountain Trailhead at the mouth of Red Canyon. - outside UDOT R - inside Forest Boundary, E of first bridge
 7. Consider a new National Forest boundary sign to be installed by UDOT at the mouth of Red Canyon. → check on whose responsibility Forest signs are
 8. Install an education sign at the mouth of Red Canyon (kiosk) explaining the Sevier Fault Line and geology of the area. → coordinate w/ education about geology along the route
- II. Red Canyon (mouth of Red Canyon to the Tom Best Road).
1. Complete the Red Canyon Bicycle Trail. - contract has been awarded
 2. Complete the Red Canyon Visitor Center. → 2003
 3. Complete the Historic Podunk Building project.
 4. Upgrade the Red Canyon Campground facilities. - Forest Service project
 5. Install education signs at the Red Canyon tunnels. - information/history
→ coordinate effort for interpretation w/ Travel Council & other agency
 6. Consider installation of a roadside turnout and education sign at the old sawmill site east of the Red Canyon tunnels (0.3 miles, on the north side of the highway).
 7. Construct passing lanes from the Cabin Hollow Road to the Red Canyon summit. → up the hill @ top of Red Canyon
 8. Pave Coyote Hollow Parking (temporary end of the Red Canyon Bicycle Trail and road/highway junction with the Fremont and Great Western Trail ATV Trails). {end of current bicycle trail plans... is only planned to be graveled
 9. Add kiosk, education signs, and one restroom at the Coyote Hollow Parking site. {Paunsaugunt Plateau, etc
- III. Paunsaugunt Plateau (Tom Best Road to Bryce Canyon National Park).

1. Construct bicycle trail or widen the highway for bicycle use.
2. Establish Great Western Trail from Highway U-12 past Ruby's Inn to the Gateway ^{-between R}
Trailhead (hiking, bicycle, and horse use). ^{Inn & B. c}
3. Mow grass/weeds by July 1 of each year on Highway U-12.
4. Replace existing old fence with new desirable looking fence (standard barbed wire fence) from the top of Red Canyon to the Pines (both sides of highway approximately 2.5 miles in length).

If additional information is needed concerning these proposals, please contact Carlton P. Guillette or Evan L. Boshell at the Powell Ranger District office in Panguitch, Utah, or call (435) 676-8815/(435) 676-9300.

- 5. Color of snow fence would be better as an earth tone (green, brown, etc.) instead of orange.

file

SR-12 CORRIDOR MEETING FOR 27 February

From: Randall Taylor, Richfield Construction

To: Wayne Jager, Sandy Weinrauch, Kevin Nichol, Karl Verhaeren, Susan Miller, Myron Lee,
Ross Christensen, Dal Hawks, Wade Barney, Bruce Dalton

08 February 2001

The USFS has taken the lead role in organizing the meeting for the 27 February, and the nature of the meeting has changed. Originally the purpose was the preparation of a Communication and Interpretive Plan; now it will be an informational meeting about obtaining National Scenic Byway status. The meeting agenda is attached.

Local mayors, county commissioners, and SR-12 Corridor planning partners have been invited. Principal goals will be to provide information to local officials about the benefits and restrictions of a National Scenic Byway. From this discussion it is expected to be determined if there is local support for an application, and, if this is the consensus, then a decision may be made to identify the local organizations who would sponsor the application.

The location has also been changed. Note on the enclosed USFS letter that it will be held at Ruby's Inn, rather than in Panguitch as originally planned.

For the Communication Plan we will need input from Sandy Weinrauch, UDOT Pedestrian and Bicycle Coordinator, of suggested rules of the road that can be used to help achieve increased compatibility between bicycles and motorist. Education and information can focus bicycle use towards the more compatible segments of SR-12, and aid in the safe mix of bicycles and motorist on all of the route.

Myron Lee and UDOT Maintenance will be utilized to determine how to communicate these volunteer rules and related information. UDOT's thoughts will be coordinated with the federal agencies and other corridor partners to implement communication methods to educate and inform SR-12 users. It is felt that volunteer, self regulation by bicyclist is the best means of increasing their compatibility, and providing a near term response to the motoring public demands for help with compatibility problems. Construction responses will follow as projects work their way through the planning and funding process.



United States
Department of
Agriculture

Forest
Service

Dixie National Forest

82 North 100 East
Cedar City, UT 84720
(435) 865-3700

File Code: 1500/1520

Date: February 5, 2001

Randall Taylor
Utah Department Of Transportation
1345 South 350 West
Richfield, UT 84701

Dear Randall:

In the process of developing the corridor management plan for State Route 12, it has become clear that a number of individuals and communities are interested in pursuing a national designation for this highway. At the request of those partners we have coordinated with the National Scenic Byway Resource Program to facilitate an information workshop (see attached agenda) on Tuesday, February 23rd, 2001 at Ruby's Inn, Bryce Canyon.

The day will offer an overview of the national and state programs, insight into the application process for designation of a national byway, and specific tips on what makes a successful byway. A goal of this workshop is to decide if there is enough interest in moving ahead with this designation.

We look forward to your participation and collaboration on this day. Please RSVP to Maggie Dowd, Dixie National Forest's Partnership Specialist (435.865.3707) by Friday, February 16th.

Sincerely,

MARY WAGNER
Forest Supervisor

Attachment



Caring for the Land and Serving People

Printed on Recycled Paper



*National Scenic Byways
Information Workshop*

Tuesday, February 27th

Ruby's Inn

9:00 am. - 2:30 pm.

<i>9:00 -9:10</i>	<i>Welcome</i>	<i>Garfield County Commissioner</i>
<i>9:10-9:30</i>	<i>Introductions</i>	<i>ALL</i>
<i>9:30-9:45</i>	<i>Expectations</i>	<i>Fran Reynolds/ Dixie National Forest</i>
<i>9:45-10:00</i>	<i>Federal Highway's Scenic Byways Program</i>	<i>Dan Pacheco/ Utah Coordinator</i>
<i>10:00-10:15</i>	<i>Utah Grant Application Process</i>	<i>Margaret Godfrey/ Utah Travel Council</i>
<i>10:15-12:00</i>	<i>National Scenic Byways</i>	<i>Barb Koth/Nancy Brunswick NSB Resource Center</i>

Process

Involvement / Organizational Structure

Corridor Management Plan

<i>12:00 -1:00</i>	<i>Lunch</i>	<i>Ruby's Inn</i>
<i>1:00 - 1:30</i>	<i>Success Stories</i>	<i>Kathy Hanna - Smith/ Carbon County Visitor's Bureau</i>
<i>1:30-1:45</i>	<i>Discussion: Where to Now?</i>	<i>Nan Groves/ Wayne Co. Travel Council & Participants</i>
<i>1:45-2:00</i>	<i>Wrap Up and Commitments</i>	<i>Fran Reynolds</i>



State of Utah

DEPARTMENT OF TRANSPORTATION

Michael O. Leavitt
Governor
Thomas R. Warne
Executive Director
John R. Njord
Deputy Director

Dal Hawks, Director
Region Four
1345 South 350 West
Richfield, Utah 84701-0700
435-893-4799
Fax: 435-896-6458
www.dot.state.ut.us

Commission
Glen E. Brown
Chairman
James G. Larkin
Hal M. Clyde
Stephen M. Bodily
Jan C. Wells
Bevan K. Wilson
Kenneth L. Warnick

Randall Taylor
Resident Engineer
1345 S. 350 W.
Richfield, UT 84701

03 May 2001

RE: SR-12 Planning

Dear Planning Participant:

Enclosed are the minutes from our work group meeting held 26 April 2001 to evaluate recommendations for the Boulder to Torrey segment of highway 12 (SR-12). Please advise me of any corrections to the minutes.

The participation we are receiving is a big help towards planning for the future of SR-12

Our next work group meeting is scheduled for Thursday 14 June 2001 to review the highway segment through the Grand Staircase-Escalante National Monument (GSENM). We will meet at the Jct. of SR-12 and SR-89 (at a good turnout on SR-12 immediately east of the junction) so we can review gateway signing for the GSENM, then travel east on SR-12. UDOT and GSENM will each have a van to limit the number of vehicles. We will stop at the Cannonville visitors center about 10:30 AM to meet anyone who would like to join us there.

You may contact me at (435) 893-4788, or my E-mail address is rtaylor1@dot.state.ut.us.

Sincerely,

Randall Taylor
Resident Engineer
UDOT Region 4 Construction

Enclosure

xc: Mayor Jean Seiler, Town of Tropic
Mayor Al Stone, Town of Cannonville
Mayor Thorley Johnson, Town of Henrieville
Mayor Marjie Spencer, City of Escalante

Jerry Roundy, Escalante Region
Mayor Keith Gailey, Town of Boulder
Kristina Karlsson, Boulder Planning Commission
Micheal Castagnetto, Chief of Maintenance, Bryce Canyon National Park
Fred Fagergren, Supervisor, Bryce Canyon National Park
James Woolsey, Bryce Canyon National Park
Tom Clark, Chief of Resource Mgt. & Science, Capitol Reef National Park
Bill Farrand, NPS Rivers & Trails
Barbara Sharrow, Assistant Mngr, Grand Staircase-Escalante National Monument
Tom Terry, Grand Staircase-Escalante National Monument
Chris McAlear, Grand Staircase-Escalante National Monument
Tom Terry, Grand Staircase-Escalante National Monument
Steve Kandel, Grand Staircase-Escalante National Monument
Mary Wagner, Forest Supervisor, Dixie National Forest
Joe Black, Forest Engineer, Dixie National Forest
Steve Hatch, USFS, Dixie Nat'l. Forest
Fran Reynolds, Public Affairs Officer, Dixie National Forest
Marv Turner, USFS Teasdale Ranger District
Kurtis Robins, USFS Teasdale Ranger District
Kevin Schulkoski, USFS Escalante Ranger District
Cindy Calbaun, USFS Escalante Ranger District
Maggie Doud, USFS Dixie Nat'l. Forest
Dell Lefevre, Garfield County Commission
Brian Bremner, Garfield County Engineer
Wayne County Commission
Nanette Anderson, Director, Wayne County Economic Development/Travel Council
K. Bruce Fullmer, Executive Director, Garfield Travel Council
Margaret Godfrey, Utah Travel Council
Lynn Chamberlain, Utah Division of Wildlife Resources
Tom Shakespeare, Manager, Kodachrome & Escalante State Parks
Michael Nelson, Anasazi State Park
Harlan Miller, Federal Highway Administration
Dan Pacheco, Federal Highway Administration
Allysia Angus, Five County Association of Governments
Dal Hawks, Director, UDOT Region 4
Karl Verhaeren, Construction Engineer, UDOT Region 4
Ross Christensen, Richfield District Engineer, UDOT Region 4
Wade Barney, UDOT Escalante Station 4324 Supervisor
Daryl Friant, Environmental Engineer, UDOT Region 4
Kevin Nichol, Program Development, UDOT Central
Wayne Jager, Program Development, UDOT Central
Glen Ames, Program Development, UDOT Central
Debbie Hall, UDOT Bicycle, Pedestrian Planner, Complex
Susan Miller, UDOT Region 4, Preservation Specialist
Nancy Jerome, UDOT Region 4
Ted Madden, UDOT Region 4
Anne Ogden, UDOT Region 4, SR-12 Corridor Engineer
Myron Lee, UDOT Region 4, Public Involvement Coordinator
SR 12 File

HIGHWAY 12, BOULDER TO TORREY SEGMENT
WORK GROUP MEETING
26TH APRIL 2001

Attendees:

Randall Taylor, UDOT 893-4788
Steve Hatch, USFS 676-9351
Wade Barney, UDOT 826-4682
Kurtis Robins, USFS 425-3702
Marv Turner, USFS Teasdale 425-3702
Dell Lefevre, Garfield County Commissioner 335-7412
Gael Hill, Escalante Interagency 826-4583
Allysia Angus, 5Cty AOG 826-4480
Chris McAlear, GSENM 644-4302
Myron Lee, UDOT 893-4702
Anne Ogden, UDOT 896-1359
Wayne Jager, UDOT 801-965-4185
Maggie Dowd, USFS 865-7938
Cindy Calbaun, USFS Escalante
Kristina Karlsson, Boulder Planning Commission 335-7312

The meeting convened at 8:30 AM at the Boulder Town Hall we discussed the following input received from public comments.

- A sharp curve located about a mile south of the Torrey Junction needs attention. This is currently on UDOT's list for safety concerns.
- A curve just north of Grover has the wrong super elevation.
- Increasing traffic has made it difficult for stockgrowers to trail cattle to the mountain and back home. An alternate route has been requested to preserve this ability for trailing livestock.
- Need to plow turnouts for wintertime recreation. Wade Barney noted that UDOT does not have ROW for the turnouts and technically there is no authorization for work off the roadway. The USFS said they do not have the equipment to maintain these areas and they would also like maintenance to be performed at the highway culvert outlets where erosion is occurring. These areas of the culvert discharges are also outside of the UDOT work limits which are the disturbed roadway. It was acknowledged that the ROW needs to be defined to allow necessary highway operations to take place without special authorizations. Steve Hatch said he would ask Joe Black if Joe knew anything about the history of why the ROW was never resolved.

- At Steep Creek there are a lot of accidents during stormy weather.
- In the Town of Boulder there is a need for a sidewalk and a means of accomodating pedestrians who cross the highway between Anasazi State Park and the businesses to the west. Wayne Jager noted that grants through the Enhancement Program for local main street improvement projects (like Escalante obtained) are no longer accepting applications for the next 3 years, but the town should proceed ahead with plans and then find sources of funds. There could be some funds available through the State Parks and Recreation Department.

The USFS Teasdale Ranger District had the following input for consideration:

- Cattle guards need replacement or raising. As highway overlays are made the surface rises and the cattle guards remain in a depression, creating a bump.
- Lookouts need paving.
- The Wildcat Visitors Center and Rest area needs the access road paved. The borrow pit near this location needs to be closed so other pits need to be found. One suggestion was a pit site north of Boulder.
- Connections are needed for ATV trails so ATVs will not be driving the highway.

Other discussion from public input and from this work group:

- There is a need for a highway patrolman located out of Escalante. This could go a long ways towards controlling the traffic problems. The one out of Loa and the one out of Panguitch are spread too thin. Another patrolman could help control bicycles, RVs and all highway users.
- There is a speed problem north of Boulder. The wide open highway invites higher speeds.
- To accommodate increased traffic flow, turnouts are recommended rather than passing lanes. The turnouts need to be signed to encourage slow moving vehicles to pull over and to let people know there will be an opportunity to stop up ahead so they will not stop along the road.
- There is a question about who should be maintaining the turnouts.
- We talked about how to handle bicycles. UDOTs standard for future road improvements with the foreseeable traffic volume would be 11-ft lane widths with 4-ft shoulders, but 6-ft shoulders would more likely be recommended. This would help considerably.

Still with the wide RVs that have problems with the narrow road an alternate route for bicycles would have advantages. The USFS has led the way for alternate routes with their project in Red Canyon. This project has some special requirements, but its high cost shows how expensive separate routes can be.

One option is a primitive but paved alternate trail that may include low water crossings for intermittent drainages and some steep grades. This route could be designated for all nonmotorized travel; cattlemen could use it during the brief periods of early summer and fall when they trail stock to and from the mountain. The primitive nature would be part of the challenge. The problems are that this might not satisfy the touring type bikers, and it would be difficult to find a place for an alternate route.

A suggestion was given that "information technology systems" (ITS) be used to warn motorists of bicycles and cattle on the roadway.

- Regarding the traffic mix, it was noted that logging trucks haul both directions on SR-12.

A field inspection was held at several sites as follows:

- At Anasazi State Park we looked at the problem of speeding traffic and a growing number of pedestrians on the side of the road or crossing the road. It looks like open highway; changing the look will encourage people to slow down. Curb and gutter, sidewalk, possibly planters, and signing indicating entering Boulder would help motorists recognize they are entering into a changed condition. A cross walk could be a problem by giving pedestrians a feeling of being protected, when they need to be watching the traffic, and traffic may be going so fast that they wouldn't see the cross walk until they are upon it.
- At approximately mile post 94 (south side of the highway) we looked at a potential material borrow site.
- We inspected the Deer Creek Lake turnouts in response to complaints of unsafe sight distance. The sight distance appeared okay with the exercise of caution by people using the turnout.
- We looked at the Frisky Creek turnout. This is typical of opportunities to provide turnouts for slow moving traffic to move over, and to provide a scenic picture taker site.
- We went to the large Homestead turnout. There is a question about who should be maintaining it. If UDOT is to maintain it, the roadside boundary rocks need to be moved back to prevent damage to snow plows. This turnout needs slight expansion to the east to the natural terrain boundary.

- Edge breakoff problems were noted where motorists exit the highway at places other than developed turnouts. These informal turnoffs need to be minimized by signs indicating turnoffs ahead.
- The Steep Creek overlook needs paved.
- There is roadside embankment erosion needing controlled, and riprap is needed to prevent erosion at the culverts discharges. Seeding is one method of erosion control needed.
- At Roundup Flat an improved turnout is needed.
- The Lower Bowns reservoir intersection definitely has unsafe site distances for vehicles entering or leaving SR-12. There was a recent fatality at this site. Trees and part of a hill need to be removed. This need will be identified in the plan, but the USFS Teasdale Ranger District, and the UDOT Escalante Maintenance shed will work to see if progress might be made to correct the problem this year.
- We stopped at the USFS Wildcat Visitors Center. The access road needs to be paved. Possibly there may be USFS funds to assist UDOT with performing this work. It is a good site for visitor services. The USFS would like to close the borrow pit near this site, and there are other potential USFS where application could be made.



Michael O. Leavitt
Governor
John R. Njord
Executive Director
Carlos M. Braceras
Deputy Director

Randall Taylor
Resident Engineer
1345 S. 350 W.
Richfield, UT 84701

State of Utah

DEPARTMENT OF TRANSPORTATION

Dal Hawks, Director
Region Four
1345 South 350 West
Richfield, Utah 84701-0700
435-893-4799
Fax: 435-896-6458
www.dot.state.ut.us

Commission
Glen E. Brown
Chairman
James G. Larkin
Hal M. Clyde
Stephen M. Bodily
Jan C. Wells
Bevan K. Wilson
Kenneth L. Warnick

19 September 2001

RE: SR-12 Transportation Planning

Dear Planning Participant:

Enclosed are the minutes from the 27th June field work group meeting that was held to review the section of highway 12 through the Grand Staircase-Escalante National Monument (GSENM). The purpose of the work group was to mesh UDOT's transportation planning with the Monument's plans, and to work together to address safety needs. Any corrections to the minutes are welcome.

These minutes are late being distributed as our work during the construction season has been quite consuming. This fall and winter we look towards completing a transportation plan for SR-12. Please don't confuse this effort with the Scenic Byway Plan that is also in progress.

On October 9th we will meet with personnel from Bryce Canyon National Park to review transportation needs on SR-12 and SR-63 through the park.

You may contact me at (435) 893-4788; or my E-mail address is rtaylor1@dot.state.ut.us.

Sincerely,

Randall Taylor
Resident Engineer
UDOT Region 4 Construction

xc: Mayor Jean Seiler, Town of Tropic
Mayor Al Stone, Town of Cannonville
Mayor Thorley Johnson, Town of Henrieville
Mayor Marjie Spencer, City of Escalante
Jerry Roundy, The Escalante Center
Mayor Keith Gailey, Town of Boulder
Kristina Karlson, Boulder Planning Commission
Micheal Castagnetto, Chief of Maintenance, Bryce Canyon National Park
Fred Fagergren, Supervisor, Bryce Canyon National Park
James Woolsey, Bryce Canyon National Park

Tom Clark, Chief of Resource Mgt. & Science, Capitol Reef National Park
Bill Farrand, NPS Rivers & Trails
Kate Cannon, Manager, Grand Staircase-Escalante National Monument
Barbara Sharrow, Assistant Mngr, Grand Staircase-Escalante National Monument
Tom Terry, Grand Staircase-Escalante National Monument
Chris McAlear, Grand Staircase-Escalante National Monument
Butch Olsen, Grand Staircase-Escalante National Monument
Steve Kandell, Grand Staircase-Escalante National Monument
Mary Wagner, Forest Supervisor, Dixie National Forest
Joe Black, Forest Engineer, Dixie National Forest
Steve Hatch, USFS, Dixie Nat'l. Forest
Fran Reynolds, Public Affairs Officer, Dixie National Forest
Kevin Schulkoski, USFS Escalante Ranger District
Cindy Calbaun, USFS Escalante Ranger District
Maggie Dowd, USFS Dixie Nat'l. Forest
Dell Lefevre, Garfield County Commission
Brian Bremner, Garfield County Engineer
Wayne County Commission
Nanette Anderson, Director, Wayne County Economic Development/Travel Council
K. Bruce Fullmer, Executive Director, Garfield Travel Council
Margaret Godfrey, Utah Travel Council
Kathleen Truman, Utah Travel Council
Lynn Chamberlain, Utah Division of Wildlife Resources
Tom Shakespeare, Manager, Kodachrome & Escalante State Parks
Michael Nelson, Anasazi State Park
Harlan Miller, Federal Highway Administration
Dan Pacheco, Federal Highway Administration
Allysia Angus, Five County Association of Governments
Dal Hawks, Director, UDOT Region 4
Karl Verhaeren, Construction Engineer, UDOT Region 4
Ross Christensen, Richfield District Engineer, UDOT Region 4
Wade Barney, UDOT Escalante Station 4324 Supervisor
Bruce Dalton, UDOT Panguitch Station 4325 Supervisor
Daryl Friant, Environmental Engineer, UDOT Region 4
Kevin Nichol, Program Development, UDOT Central
Wayne Jager, Program Development, UDOT Central
Glen Ames, Program Development, UDOT Central
Susan Miller, UDOT Region 4, Preservation Specialist
Nancy Jerome, UDOT Region 4 Right of Way
Ted Madden, UDOT Region 4 Right of Way
Larry Gay/Karen Olsen UDOT Region 4 Materials
Anne Ogden, UDOT Region 4, SR-12 Corridor Engineer
Myron Lee, UDOT Region 4, Public Involvement Coordinator
SR 12 File

SR-12 WORK GROUP MEETING
GRAND STAIRCASE-ESCALANTE NATIONAL MONUMENT SEGMENT
JUNE 27, 2001

Attendees:

Name	Representing	Phone Number
Anne Ogden	UDOT - Region 4	435-893-4783
G. Bruce Dalton	UDOT - Panguitch Station 4325	435-676-2301
Bruce Fullmer	Garfield County	435-676-1102
Randall Taylor	UDOT	435-893-4788
Don Yarborough	GSENM (GIS)	435-644-4322
Chris McAlear	GSENM	435-644-4302
Wayne Jager	UDOT - Program Development	801-965-4185
James Woolsey	Bryce Canyon National Park	435-834-4410
Stephen Kandell	GSENM	435-644-4333
Maggie Dowd	Dixie National Forest	435-865-3707
Michael Castagnetto	Bryce Canyon National Park	435-834-4200
Allysia Angus	AOG - CMP Planning Team	435-826-4480
Wade Barney	UDOT - Escalante Station	435-826-4233

The meeting began shortly after 9:00 AM at a pullout near the US-89/SR-12 junction. After a brief discussion at this location, the group traveled along SR-12 to Boulder, stopping at approximately 15 sites along the way. However, some of the attendees listed above only traveled with the group for part of the tour.

The sites at which the group stopped and the items discussed at each site are summarized below. Most of the discussions were led by Chris, who had provided each member of the group with a draft copy of a list of existing site conditions and the Monument's recommendations for improvements and interpretation at these sites along the Highway 12 Corridor.

- At the US-89/SR-12 Junction, the need for a "welcome" sign for eastbound traffic was discussed. It would need to be a simple sign, readable from the road, welcoming the traveling public to the corridor of "Scenic Byway 12" and letting them know there is a visitor information kiosk a few miles down the road. It should be located a short distance east of the intersection itself to give people time to adjust after having just turned on to Highway 12. Also, by not having it immediately adjacent to the intersection, safety problems caused by people stopping to take pictures by the "welcome" sign would be reduced. It was discussed that the logos of UDOT,

GSENM, USFS, Bryce Canyon NP, and other agencies with interests along Highway 12 may either be placed on this sign, or they may be included as part of the larger contact station at the mouth of Red Canyon. GSENM would like to coordinate with UDOT, Bryce Canyon NP, and Dixie NF to develop this welcoming sign.

- The contact station near the mouth of Red Canyon is also the Thunder Mountain Trailhead area. The existing pullout has a shade structure large enough for six large (36" x 48") vertical panels. Parking at the existing pullout is adequate. The group discussed the need to expand the current contact station. GSENM would like to coordinate with UDOT, Bryce Canyon NP, and Dixie NF to redesign the informational and interpretive displays and panels at this site. Some of the purposes of an enhanced display would be to orient travelers to the themes of the Scenic Byway, introduce them to the area surrounding Highway 12 and the interpretive opportunities along the highway, and increase awareness of the hazards associated with travel into the Monument interior.
- A new Red Canyon Visitor Center is going to be built near/on the site of the current Visitor Center. This new facility is being developed for the Dixie National Forest and will be constructed using "Enhancement" funding. It will be completed in approximately 2003. GSENM would like to coordinate with Dixie NF planners so that Monument orientation information can be provided at the Red Canyon Visitor Center.
- James said that the new Bryce Canyon Visitor Center should be completed by December 2001. He also said that the Park has some funding for developing road-side interpretive sites.
- The new Cannonville Visitor Center will serve as the "portal wayside" for the Monument. An interpretive plan for the new facility has already been developed. The ground-breaking will take place in July 2001, and the building should be completed later in 2001. The building will be larger than the current facility, but will be located in essentially the same place. The displays at this Visitor Center will be mostly focused on the human aspects of the area's history, including human interaction with the geology and landscape of the region.
- The towns of Henrieville & Tropic each have small interpretive sites along Highway 12 which haven't been promoted by the Monument. These sites, however, could be addressed as part of the Scenic Byway plan.
- There is currently a small snowplow turn-around located just west of the "Smith's Crossing" bridge east of Henrieville. The Monument has decided not to look at expanding this into a major interpretive site at this time, since it is close to the Blues and doesn't have a lot of history on which to focus in that area. However, the pullout could be expanded into a parking area for use as a wayside where travelers can get out of their vehicles and walk around. There is also the possibility of tying in with some walking trails near this site.

- Chris mentioned to the group that the Monument has "ear-marked" an area on the other side of the road from the current "Smith's Crossing" pullout for consideration as a possible site for a primitive campground. Chris said that no environmental assessment has been done on this site as yet, so it's still too early in the process to know whether it will receive any final consideration or not. However, Wade was very concerned about how a campground in this location would affect UDOT's "Smith's Crossing" material site, which is located just above the site Chris mentioned. Wade considers this pit site to be an essential source of material for UDOT maintenance activities along Highway 12, and would prefer that UDOT be able to maintain a current lease on the site.
- A site at the west end of the Blues, known as the Lower Blues, has adequate space to develop a wayside including interpretive displays, picnic shelters and tables, toilets, campsites, and a short walk to a viewpoint. The interpretive panels at this site could focus on ancient ecosystems, the histories of geology and paleontology in this area, and the economic importance of the Upper Valley oil fields. GSENM would like to coordinate with UDOT to develop a pullout and parking area large enough to accommodate up to two tour buses. The development of this location could help relieve the ever-increasing pressure on the current Upper Blues Overlook.
- As the group traveled to the Upper Blues Overlook, Wade pointed out a dangerous tight, blind curve near the top. He said that UDOT has, more than once, looked at removing that turn and making the road straight through that area.
- Roadway alignment improvements are needed in the "Blues" area. This topic received a considerable amount of public comments at UDOT's public open houses, which were held in November 2000. UDOT and GSENM will need to coordinate for right-of-way needs.
- There is currently a toilet and a wayside exhibit about the 1872 Powell Survey at the Upper Blues Overlook. The viewpoint overlooks the Blues, with views of Powell Point and the Aquarius Plateau (Pink Cliffs). GSENM has considered developing a trail to the rim (low priority), with trail head parking in a safer, more visible site several hundred meters east of the current parking area. The Monument also recommends that three interpretive panels be placed at the pullout. These panels would discuss such things as the Powell Expeditions, the process of surveying by triangulation, the fossil deposits in the region, and the names of various landmarks and their significance to different cultures. It was also mentioned that there is a Wilderness Study Area north of this site, beginning at the northern boundary of the Monument.
- More parking space is also needed at the Upper Blues Overlook site.
- A prehistoric granary is visible in the cliffs above the Upper Valley Granaries pullout. This pullout currently includes a small parking area with a single-panel exhibit and a spotting tube for viewing the granary. GSENM would like to coordinate with UDOT to enlarge the parking area and redesign it to meet ADA standards. They also recommend the installation of universally-accessible spotting tubes and a multi-panel shaded kiosk to present information about the

prehistoric people who lived in this area. Wade mentioned, however, that he has seen more people pulling off the highway near the Main Canyon road turnoff, where there is currently no pullout, than at this site. The two locations are approximately 2 miles apart. There are apparently some granaries and pictographs in the cliffs, near the Main Canyon road turnoff, to which people like to hike. Wade said he has even seen some tour buses pull off on the side of the highway at that location. He suggested that the Monument consider using this site for a wayside exhibit, either in addition to or in place of the Upper Valley Granaries pullout.

- An interpretive plan is being developed for the Escalante Science and Visitor Center, which will be located on the site of the present multi-agency building in Escalante. The replacement or remodeling of the current 8,000-ft²-building into an approximately 20,000-ft²-facility should begin in 2002, with completion in 2002 or early 2003. Displays at this location will focus on the biological and geologic history of the region.
- From the junction of Highway 12 and the Hole-in-the-Rock Road, visitors have views of some Navajo sandstone formations, the Kaiparowits Plateau, Fiftymile Mountain, the Straight Cliffs, and Navajo Mountain. There is currently one small panel at a pullout near the junction. GSENM's recommends installing a wayside and developing a short path to a viewpoint from this site. The interpretive displays at this location would provide information about the Hole-in-the-Rock expedition, the major geographical features visible from this site, and the geologic processes that created these features.
- GSENM recommends that the Cream Cellar Route site be developed. It is located about ¼-mile west of the Head-of-the-Rocks Overlook. This site is a small, undeveloped parking area which provides access to the Old Boulder Road. The Old Boulder Road shows examples of pioneer roads, including cut-and-fill work, pick marks, rock walls and gutters, iron-rimmed wagon wheel marks, etc. The old road can be hiked out-and-back or as a one-way trip to an exit point near the Boynton Overlook. GSENM would like to coordinate with UDOT to improve the turnoff that accesses the site and to develop parking areas. Since sight distances are limited at this location, a turn lane may be needed for traffic accessing this site. Other site recommendations include: improve the first ¼-mile of the trail (to an overlook) to ADA standards, if possible; develop a trail to a Hoodoo formation (approximately 1 mile); and install a single-panel introductory exhibit. Also, more development is needed on the Hoodoo Formation site.
- The Head-of-the-Rocks is one of the busiest pullouts along Highway 12. There is currently a large parking area and a wayside exhibit describing the many important geographic features which are visible from the overlook. These include the Aquarius Plateau, Boulder Mountain, Waterpocket Fold, the Henry Mountains, Navajo Mountain, the Kaiparowits Plateau, and others. GSENM would like to slightly enlarge the current parking area and install multiple interpretive panels that meet ADA standards. Interpretation at this site would focus on the areas of biological diversity and prominent landscape features visible from the overlook.

- The Boynton Overlook allows visitors to view the Escalante River and its confluence with Calf Creek. This overlook and the highway crossing below it are the only places along Highway 12 where the Escalante River is visible from the highway. Also, the "100 Hands" area and some other petroglyphs can be seen across the river from this site. Currently, there is a small pullout area rimmed by a thick rock wall. There is one interpretive panel atop the wall. GSENM recommends creating some 6-foot wide cut-outs in the existing wall, or a redesign of the wall, to allow for easier viewing and ADA accessibility. They also recommend that more interpretive panels be added at this site to provide information about the importance of riparian corridors, the cultural history in this area, the story of the discovery of the Escalante River, etc. Spotting scopes or view tubes could also be added to help visitors view the rock art across the valley.
- The Lava Balls Overlook site is located just south of the Hogback, on the east side of the road. There are lithic scatters and numerous rounded, iron-tinted boulders on the site. A primitive service road leads south to the top of a knoll. Panoramic views of the area, including the town of Boulder and surrounding fields, can be seen from the top of the knoll. The development of this wayside would hopefully draw some of the traffic away from the unsafe lookout just up the road on the Hogback. GSENM would like to coordinate with UDOT to develop a pullout and parking area on the east side of the highway near the base of the knoll. Some highway alignment change would possibly be needed to provide safe sight distances for traffic entering and exiting a pullout at this location. GSENM recommends developing a short trail up the Cream Cellar Route and installing two interpretive panels to discuss the archeological and geologic histories of the area. Chris also mentioned the possibility of, at a later time, developing a trail from this parking area to an overlook on the west side of the highway.
- The existing lookout at the south end of the Hogback needs to be redesigned to address safety issues. GSENM recommends that interpretive panels not be installed here.
- There is an existing UDOT pullout on the west side of the highway, just north of the Hogback, toward New Home Bench. GSENM has observed that there is a lot of level terrain with ample space to develop parking for buses and large RV's. Visitors could also take a short walk out to an overlook with views of the slickrock canyons, Powell Point, and the Straight Cliffs. GSENM recommends installing a major portal kiosk on this site to create a Northeast Monument Portal here. GSENM would also like to coordinate with UDOT to develop a site plan including bus parking, toilets, overhead shelters and picnic benches, and a short trail to the viewpoint. Interpretation here will orient visitors to the Monument and surrounding areas, increase awareness of safety issues and resource protection within the Monument, and give information about the history of the area. Wade also noted that there is also a dry oil well hole just off the highway near this location that could be included in the interpretations.
- The road leading to the Upper Calf Creek Falls trail head leaves Highway 12 about six miles south of Boulder. From there, a one-mile trail drops hundreds of feet to Upper Calf Creek Falls. Remote parts of Phipps-Death Hollow ONA can also be accessed from this road. GSENM recommends that no signs be placed on Highway 12 directing visitors to the trail head. A single-

structure trail head kiosk could be located at the trail head to provide information about "Leave No Trace" techniques, Monument back country, wilderness, and WSA rules and regulations, and the value and fragility of riparian areas.

- The unpaved Hell's Backbone/Salt Gulch road begins on the Monument boundary south of Boulder. The road was constructed by the CCC in the 1930's. GSENM would like to coordinate with the Forest Service to redesign and replace the existing interpretive sign and create a small pullout to accommodate one or two cars. Since this site would be focused on orientation, panels should be designed so visitors can read them from inside their cars. Interpretation topics at this site could include the construction of the Hell's Backbone Bridge and other CCC road-building projects, the Boulder mail trail, and orientation to the Box Death Hollow Wilderness area. GSENM realizes that specific interpretation objectives should be developed in cooperation with the Forest Service.
- There is currently a pullout (not on the Monument) on the east side of the highway as it drops down the hill into Boulder. The overlook has a large parking area and provides visitors with views of Boulder's houses, green fields, and sandstone domes and cliffs. An existing wayside tells the story of the pioneer families who settled the area. GSENM recommends replacing the existing sign with two panels. One panel would provide information about the Mormon colonization of southern Utah and irrigation developments that helped the settlements succeed. The second panel could serve as a lead-in to Anasazi Indian Village State Park in Boulder. GSENM would also like to work with UDOT and Dixie National Forest on the possibility of creating a bus pullout large enough to accommodate two buses. In addition, GSENM and UDOT would need to coordinate on design plans and researching right-of-way.
- GSENM is interested in involving Anasazi State Park in interpretive objectives, in helping provide recommendations for two Boulder Mountain overlooks on the Dixie National Forest which overlook the Monument, and in investigating sites for a possible contact station near Torrey.
- Bruce Fullmer told the group that the Wayne County Travel Council is going to be constructing a new Visitor Center in Torrey. He said that it will be on essentially the same location as the current building, and that construction on the new facility should be beginning soon.



Michael O. Leavitt
Governor
John R. Njord
Executive Director
Carlos M. Braceras
Deputy Director

Randall Taylor
Resident Engineer
1345 S. 350 W.
Richfield, UT 84701

State of Utah
DEPARTMENT OF TRANSPORTATION

Dal Hawks, Director
Region Four
1345 South 350 West
Richfield, Utah 84701-0700
435-893-4799
Fax: 435-896-6458
www.dot.state.ut.us

Commission
Glen E. Brown
Chairman
James G. Larkin
Hal M. Clyde
Stephen M. Bodily
Jan C. Wells
Bevan K. Wilson
Kenneth L. Warnick

15 October 2001

Mr. Fred Fagergren, Superintendent
Bryce Canyon National Park
P.O. Box 170001
Bryce Canyon, UT 84717

RE: SR-12 Transportation Planning

Dear Fred:

Thanks for the opportunity we had to meet with Micheal Castagnetto and yourself on Tuesday 09 October to review transportation needs along SR-12 and SR-63 in the vicinity of Bryce Canyon National Park. This letter seeks to summarize the things we talked about so we'll have a record.

Present from UDOT for the meeting were Wayne Jager, Anne Ogden, Wade Barney, and myself. We met at the top of the "dump" to allow for field review of issues. The items listed below were discussed.

Passing Lanes up the Dump The Park Service is supportive of planning efforts on SR-12. It is recognized that passing lanes up the "Dump" would help traffic flow better. Public involvement and environmental compliance will need to be pursued in connection with any construction. Limitations emphasized are that the Park does not want the formations cut back near the top of the dump, and the narrow areas between the stream bed and the slopes in the area below the Dump.

MOU Between Dept. of Interior and Utah State Road Commission You gave us a copy of the memorandum of understanding and the quitclaim deed from 1959 and 1960 that provide the history and the governing agreement for SR-12 through the Park. The Department of Interior owns the roadway, and the State of Utah is responsible for maintenance of the road.

It appears that the maintenance responsibility would allow for the construction of additional lanes when needed, if the Park Service is in agreement with this need and the nature of the construction.

Pedestrian Crossing needed on SR-63 in Front of Ruby's Inn This is a heavily used pedestrian crossing, because of "Old Town" on the opposite side of the highway from Ruby's. Visitors sometimes have a low awareness of traffic and there are many close calls. Suggestions are for a pedestrian activated signaled crossing. The concern with this is the amount of traffic congestion it would cause.

Options are for a pedestrian overpass bridge. There are concerns about the visual impacts and that it could be perceived as a gateway into the Park. Troy Torgersen has since related that

underpasses are discouraged because of the lack of visibility and the security concerns for pedestrians.

Jct. of SR-63 and SR-12 A reduced speed sign is needed on SR-12 approaching from the west. Wade will look into this. This junction could be improved to reduce accidents. A grade separated intersection should be given future consideration. Realignment of the intersection is an option; the pump house is an obstacle to this option.

Limitations of UDOT Operations UDOT's Maintenance forces are unsure of the maintenance work that can be done off of the paved roadway. Wade Barney of UDOT and Micheal Castagnetto will work with the Park's resource management personnel to write up a maintenance operations agreement. It will seek to identify sensitive issues where care or avoidance is needed in UDOT's work, and the activities and areas where UDOT can proceed as needed.

Barriers Along Roadway to Prevent Vehicles from Creating New Turnouts The Park Service has been placing some large dead trees along the edge of the roadway to limit vehicle travel to the paved roadway. UDOT Maintenance has apparently moved at least one of these. It is recognized that this barrier will be helpful, and the tree we saw that had been moved will be replaced. The one limitation is that barriers must be outside of the 30-ft clear zone for the safety of vehicles accidently leaving the roadway.

We look forward to working cooperatively with Bryce Canyon National Park to better meet the needs. Please advise me of any corrections to these notes. You may contact me at (435) 893-4788, or my E-mail address is rtaylor1@dot.state.ut.us.

Sincerely,



Randall Taylor
Resident Engineer
UDOT Region 4 Construction

xc: Micheal Castagnetto, Chief of Maintenance, Bryce Canyon National Park
Dal Hawks, Director, UDOT Region 4
Karl Verhaeren, Construction Engineer, UDOT Region 4
Ross Christensen, Richfield District Engineer, UDOT Region 4
Wade Barney, UDOT Escalante Station 4324 Supervisor
Brent Christensen, Richfield District Southern Area Supervisor
Wayne Jager, Program Development, UDOT Central
Nancy Jerome, UDOT Region 4 Right of Way
Ted Madden, UDOT Region 4 Right of Way
Anne Ogden, UDOT Region 4, SR-12 Corridor Engineer
Myron Lee, UDOT Region 4, Public Involvement Coordinator
SR 12 File